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Contents

AUGUST, 1948
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24 TWENTY-FOURTH YEAR OF PUBLICATION

Finishing Show. Sponsored by the American Electroplaters' Society (473 York Road, Jenkintown, Pa.) in conjunction with its 35th Annual Convention, the Industrial Finishing Exposition was held from June 28 to July 1 in the Atlantic City Convention Hall. The Exposition brings to industry periodically an opportunity to view a complete display of the most modern equipment and supplies.

The Exposition attracted a selected attendance estimated to be in excess of 7,000. It was not open to the general public but was restricted to those having a direct interest in the industry.

Noteworthy was the emphasis by exhibitors on new methods of mechanical finishing. This served to highlight the continuing trend toward higher efficiency and lower cost of mechanical finishing used separately and in connection with other finishes.

* * *

Paint Oil. The Stillingia tree, commonly known as the Chinese tallow tree, grows well in southwest U. S. and produces oil-bearing seeds—a future source of oil for the paint, varnish and lacquer industry.

Donald Streater, in a report written exclusively for the Dallas, Texas Times Herald, states that experts announce that oil from the Stillingia has the promise of growing in demand; that the tree grows so well in the "Big Thicket" section of Texas that "you can't keep them from growing, and the major problem is devising methods of harvesting the seed." He states that the trees are widely used as shade trees, that they grow rapidly, and the falling seed "slightly smaller than a marble" brings on a forest of seedlings each season.

* * *

Paper Coatings. A function of the paint, varnish and lacquer industry, little known to the general public, is the formulation and production of finishes for fabrics and paper. These finishes are made by manufacturers of specialized production finishes. Some have a pyroxylin base and are used largely on fabrics. Other types have other bases.

One use for such specialized finishes is in making of ordinary oilcloth, as distinguished from linoleum. Paper products, which are made to resemble leather, including certain types of book and catalog covers, owe their attractiveness to specialized production finishes.

* * *

Luminous Paints. In a recent interview one of the leading manufacturers of luminous pigments pointed out that new, improved phosporescent (so-called "luminous") paints are available in retail stores under the label of at least 14 different paint manufacturers. These "glow-in-the-dark" paints are easy to brush, do not settle or cake hard on the bottom of

the jar or can, and have an excellent appearance comparable with non-gloss interior house paints.

The home owner, the sportsman, the hobbyist, the educator, the safety engineer, the farmer—in fact all of us—can find many useful as well as novel applications for "luminous" paints. Each has his own pet use.

* * *

Surface Preparation. One of the first schools to recognize the need for more finishing knowledge is the School of Engineering at New York University, through sponsorship of the Army Signal Corps. Ten persons under the direction of Dr. Max Kronstein, research associate and adjunct professor of chemical engineering, will study and evaluate methods and materials used for surface preparation before painting. This is an extensive and important field. Nothing contributes so much to a good finish as a clean, properly prepared surface.

* * *

Television. According to a report by the Radio Manufacturers Association, a total of 268,317 television sets were shipped in the first quarter of this year. Member companies report a production of 300,000 sets in the same period. The difference does not represent a formidable inventory, but in these days of shortages almost any inventory is unusual. The New York area leads in distribution. As more cities make television available, this inventory may be replaced with a backlog of orders.

* * *

To Reinforce Rubber. At one time cotton was the chief material used to reinforce such rubber products as hose, belting, tires, etc. Cotton is being replaced for this purpose by nylon and rayon textile fabrics, due to the increased strength and lighter

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DRYING
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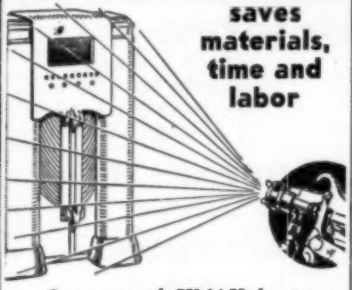

saves materials, time and labor

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SIMAX hot lacquer has body equal to varnish, and produces an exceptionally tough film with great durability. When heated it sprays on easily, has greater flow and better flow.

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weight of these fibers. It is said that less bulk is required for the same capacity. These factors are important, especially in hose lines to portable tools, since the lighter weight will lessen operator fatigue.

* * *

A new plastic fabric that isn't easily stained or scuffed has been adopted by one of the large automobile makers for seat covers. It is said to be very durable and is available in different colors. This material is past the experimental stage.

* * *

Chemical Problems. The newly created "Technical Bureau" at the National Chemical Exposition, Chicago Coliseum, Oct. 12 to 16, 1948, will be a personal information service available to all who are in attendance at this great international exposition.

The technical bureau will be manned between 3 and 6 p.m. each day by the internationally known Dr. Ward V. Evans, retired chairman of the chemistry department of Northwestern University, now professor of chemistry, Loyola University. Dr Evans is eminently qualified to give helpful, over-the-counter information to business men and manufacturers seeking knowledge of how the chemical industry can help them with their problems.

* * *

Fire Red; Safety Yellow. A simple safety color program which involves just two colors—fire red and safety yellow—is one of the by-products of the "daylight" painting scheme adopted in all of the Libbey-Owens-Ford Glass Co. factories. It was developed to correct some eye troubles by workers and with a view to making safety colors sinmple and understandable.

A standard 18-in. circle of fire red, with a white arrow pointing to equip-

(Continued on page 102)

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Our staff of specialized Laboratory Technicians have had over 40 years of experience—which is at your disposal. No problem is too small—none too big—for their enthusiastic cooperation.

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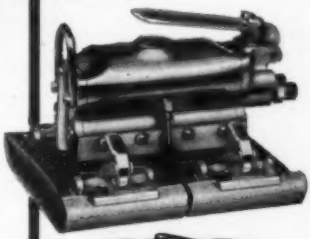
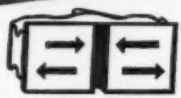
Over-hanging pads and straight line motion of Sundstrand sander permits operator to rub close to square molding on fine cabinet. Operation shown is lacquer rubbing with felt faced sandpaper attachment.

With This SUNDSTRAND Vibration-Free Sander

● Time savings on production sanding average between 50% to 70% with this portable pneumatic sander. Its light weight, freedom from vibration and need for fewer abrasive changes makes these savings possible. Straight-line opposed pad reciprocation produces finer finish.

Manufacturers working with wood, metal, plastics on composition are making savings like these, and getting better finish with this Sundstrand sander. Investigate its possibilities today.





OPPOSED PAD RECIPROCATION

Pads of this outstanding sander reciprocate in a straight line and opposite directions. Vibration is thereby reduced and operator's fatigue minimized. Elimination of end thrust makes it easy for operator to guide machine freely.

FREE! HELPFUL SANDING DATA

If your work includes production or maintenance sanding operations get the complete story on Sundstrand portable pneumatic sanders. Write for bulletin IF-32.

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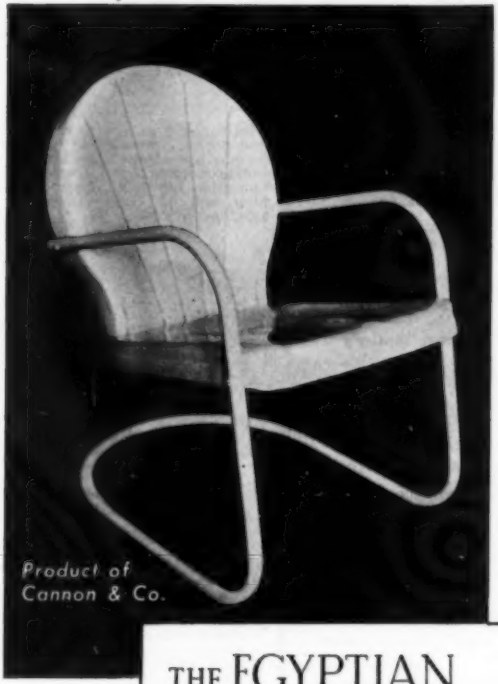

IT GOES ON EASIER

- no primer is required
- bakes perfectly at a wide temperature range
- takes several build coats if desired with no baking in between
- will "keep" well in storage

IT STAYS ON LONGER

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- resists heat deterioration
- resists moisture and corrosion
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Available in wide range of desirable colors

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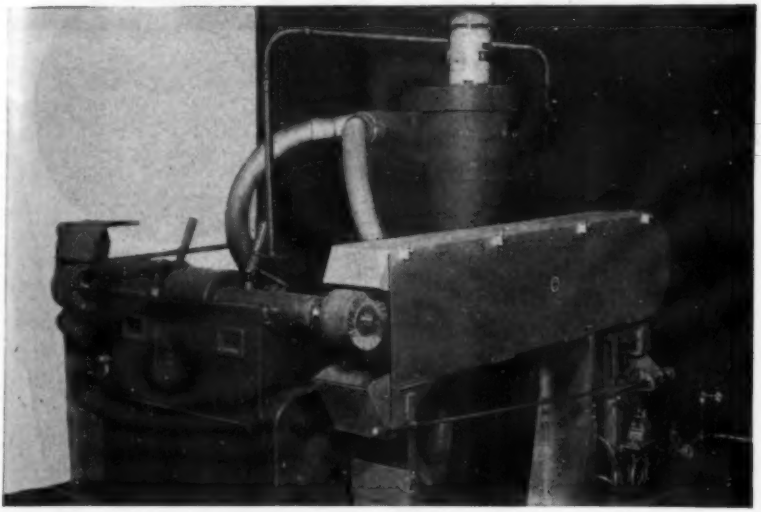

are "belting" the dust problem on this 14-foot abrasive belt machine

Here is a TORIT FB Type Dust Collector and all necessary piping set into available space back of a polishing lathe and backstand idlers. The abrasive belt is completely shielded by the Torit-designed hood, yet is accessible for changes and adjustments. Compact, efficient set ups like this pay dividends in low operating costs and good working conditions.

Self-contained TORIT Dust Collectors are easy to fit into your production set up. They range in size from ⅓ to 5 HP, and models for all standard dust collecting jobs are available for immediate delivery. For details and the latest TORIT catalog, write:

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- No Rinse Required
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- Minimizes Maintenance
- Saves Time
- Saves Space

PRODUCES BETTER CLEANING—STRONGER PAINT BOND

Don't gamble paint performance over a metal surface that has been only cleaned. Follow the lead of other wise manufacturers (toys to automotive truck cabs) Phosphatize the surface with MINIT-KOTE, a new original product that cleans and provides a quality paint bond in one operation at a minimum cost. Write us your cleaning problems and ask for a KLEM Service Engineer to help you with the solution—No obligation.

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PHOTOMICROGRAPHS PROVE VALUE OF MINIT-KOTE

Photographs show a dirty, hot-rolled steel surface before and after a one minute wash with MINIT-KOTE at 165°F in a power washer 1% by volume concentration.

Neither paint nor primer will adhere to a dirty, oily or rusty surface. Thorough cleaning is not sufficient for a satisfactory job MINIT-KOTE cleans, removes light rust and forms an adherent phosphate coating on the cleaned surface in one economical operation. Write for descriptive literature.

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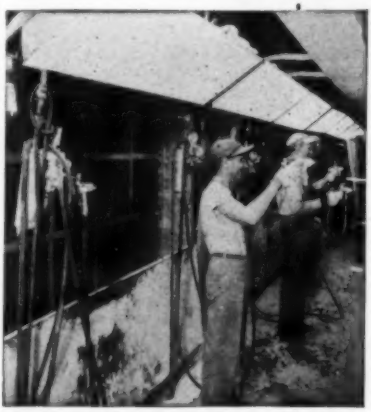

CLEAN air, in constant volume, evenly distributed—three important requirements for quality finishing and worker comfort. All are provided for in this operation at the plant of the Gibson Refrigerator Company, Greenville, Mich., through the use of AAF Air Filters.

All make-up air entering this finishing department first passes through a bank of Multi-Duty Self-Cleaning Air Filters for the removal of dust and dirt. The clean air then passes through Type G Drifilters (shown in illus. at left) which insure uniform air distribution over the entire work area plus serving as a secondary cleaning medium.

For complete information on the Multi-Duty or other units in the complete line of American Air Filters, contact your local AAF representative or write direct to:

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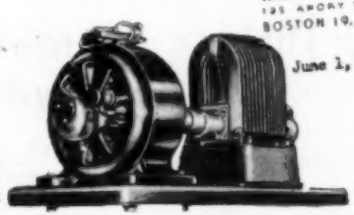

June 1, 1948

Hilo Varnish Company
42-60 Stewart Avenue
Brooklyn 6, New York

Attention: Mr. Carl J. Schumann

Gentlemen:

In our Repair Service Department where motors are repaired or rebuilt for customers after field service, we are able to compare finishes which have been subjected to exhaustive tests of a wide variety of service over a great many years.

We have always given the same careful attention to the finish of Holtzer-Cabot motors as we give to the windings. We use your Black Baking Japan. We are jealous of our reputation as builders of custom-made motors and generators for special applications over the past 73 years. Finishes are continually tested in our laboratory and in our factory for resistance to all hazards to which motors may be subjected; that is, oil, salt spray, high ambient temperatures, degreasing solutions, cyclic temperature changes, and weather.

We have sent you a photograph of a machine received to be rebuilt, which our records show was shipped 28 years ago. After removal of surface grease and grime from this old timer, the finish shows up as glossy and new as if just painted.

We feel justified in spending time and money to safeguard the quality of our finishes. We are glad to inform you, our supplier of finishes, of the performance of your products.

Very truly yours,

Joseph K. Rase

J. K. Rase
Chief Methods Engineer

HILO

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IN CANADA: HUGH RUSSEL & SONS, LTD., MONTREAL AND TORONTO

Final inspection and minor touching-up, as required, precedes delivery to customer. Here a worker is touching up a screw hole.

By WALTER RUDOLPH

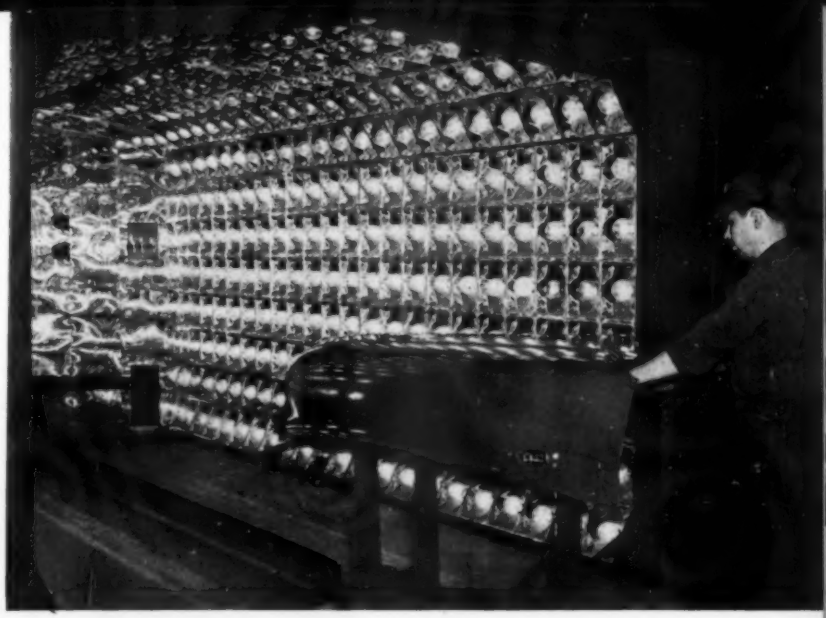
THE MANUFACTURE, and all finishing of new funeral cars and ambulances, parallel passenger car production methods except in two considerations: Fewer of them are made but there are more custom specifications involved. They require a much greater amount of care in preparation for painting and final finishing details.

Probably no other vehicle has such a durable high quality finish as the beautiful, dignified funeral cars and ambulances in service today. The Flxible Co., Loudonville, Ohio, one of the nation's leading producers of modern funeral cars, ambulances and buses, furnishes us an interesting example of the fine workmanship and finishing methods to be explained in this article.

First, quick glance backward. One can follow almost the same development in funeral cars (for expediency, we will drop "and ambulances" from here on) as occurred in the production of other motor vehicles. In bygone days, the first funeral cars, known as "hearses", were clumsy-looking and comparatively crude in fabrication.

Bodies originally had all-wood framing. They were very ornate too, a tendency which has practically disappeared. Gradually a transformation has been made from the high, square-cornered box-like bodies of old, to the smooth streamlined models of the present. Through these developmental years, Flxible has made costs a secondary consideration while striving for "quality first" in all manufacturing and finishing procedure.

Finishing Operations



All baking prior to final assembly and road testing of new funeral cars is done in this specially built infra-red oven, in 15-minute intervals at 275° F. Note the guiding angle iron strip that helps position bodies and hoods in exact center of the oven.

All Steel Bodies on Lengthened Chassis

Today all-steel bodies are the rule in funeral car production. Wood components have been gradually replaced. Aluminum plays a minor role in some of the subassembly work. We should note some fabrication details, as they bear upon producing a funeral car exterior—for instance, where contours must be sound and rigidly held to prevent blemishes in the beautiful finishes.

Precision jigs are used in body fabrication. Funeral cars at this plant are built on Buick chassis exclusively, with the frame lengthened by insertion of a 3-ft. steel member, welded into the whole with extreme care, to give the long, graceful appearence desired.

In the body shop, assembly proceeds down several lines that use all kinds of welding equipment, carefully planned to fabricate each job with a minimum of weld marks. Rigid inspection follows all operations. From a main jig that brings

on Funeral Cars

together many sub-assembled parts, the body proceeds along, getting body panels, the roof, doors, etc.

Completely assembled, the bodies are next soldered at all exterior joints. Gas torches and solder strips or ladled solder are utilized, depending upon the size and accessibility of the joint. After the solder sets, all soldered joints are roughed off with files and emery discs (the latter on portable machines) and then smoothed up with fine emery discs.

Surface Preparations; Smoothing; Cleaning

All soldering and the subsequent smoothing operations are skillfully performed with careful inspection following every step of the process. This work can run from 16 to 20 hours, according to custom job requirements. Bodies now present a strangely mottled appearance—brightly smoothed areas contrasting with dark untouched areas over the surface. The entire surface of the body is wiped with cleaner.

The dolly carrying the body is next moved to the painting department. Here it enters a specially built infra-red baking oven wherein all volatiles and moisture are baked out in 15 minutes at 275° F. Following the first bake, the entire interior of each body is given a coat of sound-deadening material.

The outside of the body is sprayed with a mild acid solution called "Metal Prep" and then rubbed vigorously with steel wool. The body is then baked a second time—a 15-min. interval, at 275° F. It leaves the oven, cools, and is now ready for the first coat of paint—a zinc oxide primer which is sprayed on.

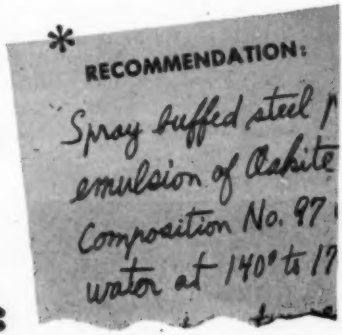
Prime Coat and Surfacer Coats

Following priming, the body is baked a third time, 15-min. at 275° F. When the baked prime coat cools the body surface gets a rigid inspection. This check-up brings to the fore all surface defects such as small scratches and pits in soldered areas. A soldering iron or torch, whichever suits the job at hand, is used to remedy the defects.

Soldered joints are roughed off with heavy machine-driven emery wheels and hand files; final smoothing is done with fine emery wheels. This work may run from 16 to 20 man hours per car, according to specifications on different funeral car models.

Next, four coats of surfacer are sprayed on lightly from one end to the other, one coat practically following the other as soon as the

For every metal-cleaning job there is an efficient Oakite method:



Precleaning in tanks . . . * in machines . . . .
Alkaline cleaning in tanks . . . in machines . . .
Pickling . . . Barrel cleaning . . . Electrocleaning . . .
Pre-paint treatment in tanks . . . in machines . . .
Steam-gun cleaning . . . Paint stripping.

FOR MORE INFORMATION about these and other processes—burnishing, anti-rusting, treating water in paint spray booths, providing coolant and lubricant for machining and grinding—consult the Oakite Technical Service Representative in your vicinity or write direct.

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Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE
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MATERIALS
METHODS
SERVICE

Specialized Industrial Cleaning

previous one is finished. The surfacer vehicle is especially important in the four passes, because it fills in all fine scratches, some of which are not visible to the naked eye.

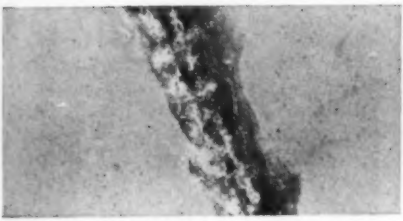
The surfacer coat is baked (same timing and heat) after which the body is ready for a thorough going over with sandpaper and water. Generally two workers handle this phase of finishing, using scaffolds or trestles and buckets of water into which the sandpaper is dipped. Each man works a body-half, on

Two workers use fine sandpaper, wet with water, to smooth body after priming and baking. Flowing curves of body contours are not favorable to mechanical sanding.

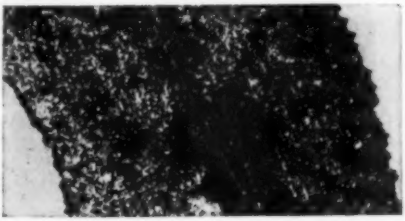
Announcing

Prep-n-Cote

A NEW Departure in METAL CLEANING and PHOSPHATE COATING TECHNIQUE



Prep-n-Cote No. 71 panel, (magnified 5 times) after 704 hours exposure to salt spray fog. A.S.T.M. Spec. B-117-T-44.



Ordinary cleaning, (Magnified 5 times) Completely failed at 72 hours under salt spray fog. A.S.T.M. Spec. B-117-T-44.

Prep-n-Cote can be used in mild steel spray washer equipment . . . It is adaptable to any number of stages, from a 2-stage to a 6-stage metal processing system . . . A dual purpose product, capable of cleaning and phosphate-coating ferrous metal and aluminum alloy surfaces for better paint adhesion and superior corrosion protection.

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NEILSON CHEMICAL CO.

2682 Tecumseh Rd. Windsor, Ont. — **6562 Benson St., Detroit 7, Mich.** — 3411 Union Pacific Ave. Los Angeles 23, Calif.

After cleaning and baking, the funeral car body gets an interior muffle coating (black seen inside this body) and the exterior is sprayed with "Metal Prep", an acid solution which is rubbed with steelwool.

opposite sides from the roof down. First wet sanding is with No. 280, and final wet sanding is with No. 320 wet-or-dry sandpaper.

Lacquer Color Coats Inside and Outside

The fifth baking now takes place, to insure complete removal of all moisture. The exterior body surface then receives two color coats of lacquer; the interior gets from six to eight coats, according to specifications. When 2-tone painting is specified, one area is masked with masking tape and newspapers while the other space is being spray painted. Coats are applied in progression in Flxible's plant-built spray room, one coat drying sufficiently for another by the time a complete body is covered.

Interior Work Installed; Road Testing

After a period of air-drying, the body moves to final assembly. (As yet, final coats of paint have not been applied.) Wiring, insertion of window glass, interior trim, installation of medicine cabinets and related equipment are now in order. The entire body assembly is mounted on the chassis at this stage, too, and the motor is completely serviced. Another thorough inspection is made, and the funeral car or ambulance is ready for road testing.

Road testing is important to the lasting quality finally achieved for the vehicle's beautiful finish. The road test is planned to bring stresses to all parts of the complete assembly, to indicate where there might be a defect in fabrication that will detract from the car's performance and perhaps soon show its effect on the smooth glossy exterior.

The paint coatings so far applied are subjected to all kinds of weathering. Dusty, muddy roads are traveled in the area around Loudonville, and the more adverse the weather, the better the test drivers like it. Bumpy roads are not bypassed.

Cleaning; Inspection; Final Paint; Drying

Upon reentering the plant, the funeral car is thoroughly cleaned and it undergoes another exacting inspection. Any defects that show up are remedied, and it is passed

(Continued on page 41)

on for final painting. This may include as many as six or eight coats, again dependent upon specifications, and it may include two or more colors. Masking is done as before, but now the work is performed even more carefully. Between coats, cars are allowed to air-dry, but after the final coat, they enter a steam-heated drying oven for four hours.

This final drying is at a heat of from 130° to 140° F. to assure complete volatilization of all solvents. After a reasonable cooling period, the entire car is polished with portable power-driven machines. The polishing wheels are made of lamb's wool, and are used in conjunction with a polishing compound. The car is now ready for installation of the exterior belt moulding, chrome striping and hardware.

Following final assembly and a rigorous road test, the funeral car is cleaned, any finish defects are remedied, and from six to eight final coats of paint are applied. Steam-heated drying is followed by mechanical polishing with lamb's wool discs and compound as shown above.

Wax Polishing by Hand; Final Inspection

The entire car is again cleaned and given a final wax polishing by hand. It is given a last inspection and then, if perfect, it is moved to a customer storage area to await delivery to the owner.

It is interesting to note that a great variety of interior decorating is done on funeral cars and ambulances. Upholstering and interior panel coverings might call for plastic materials, various kinds of leather and felt or cloth, and special appointments in cabinets, cots and other accessories. The entire gamut of colors is brought into play.

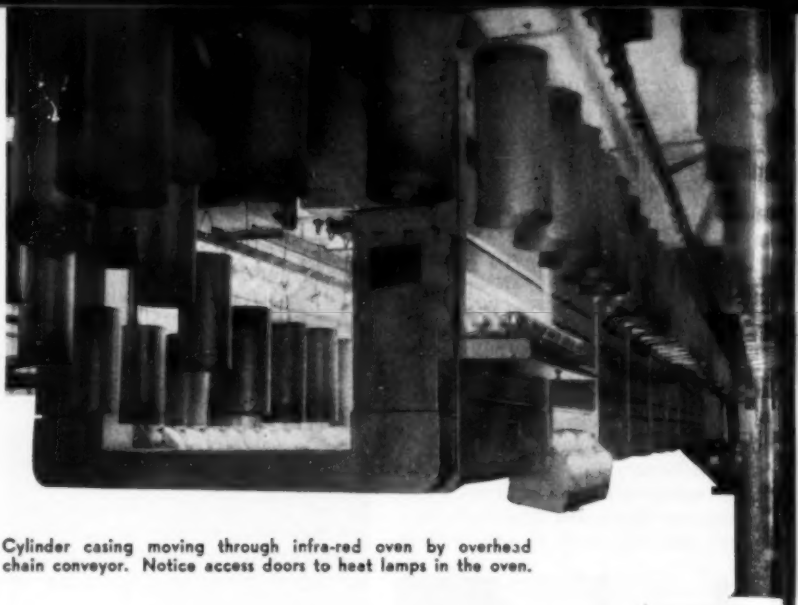
It is not unusual for Flxible to undertake re-finishing for customers, after cars have been in service for several years. The quality of work here, as a whole has resulted in a great percentage of repeat orders.

Metal Show in October

The National Metal Exposition will be held in Philadelphia, Penna., Oct. 25-29, 1948. It is sponsored by the American Society for Metals, 7301 Euclid Ave., Cleveland 3, Ohio.

Turco Products to Have New Plant in Illinois

Due to the demands of an expanding national market, McCook, Ill. has been chosen as the site of the new modern plant of Turco Products, Inc., 6135 Central Ave., Los Angeles 1, Calif., manufacturer of specialized industrial cleaning compounds. The new plant is a necessary addition to Turco's present manufacturing facilities at Chicago, Los Angeles and Houston.



Cylinder casing moving through infra-red oven by overhead chain conveyor. Notice access doors to heat lamps in the oven.

Bake Finish Setup for

EVEN THOUGH vacuum cleaners are used in the home they are often subjected to rough treatment. If the cleaner is to keep its attractive appearance over an extended period of time, its finish must be durable, tough and reasonably mar-proof. To satisfy these requirements, we apply a wrinkle enamel on the outsides of vacuum cleaner cyclinders, and an aluminum finish on the insides. Standard colors in wrinkle are maroon, beige and gray.

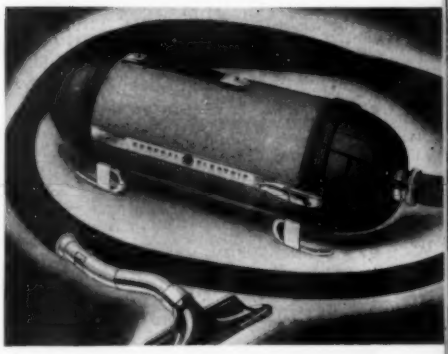
Conveyor; Spraying; Infra-Red Oven

Modern equipment, with all of its mechanical and automatic features and conveniences, plus correct methods, combine to make a 25-minute finishing cycle possible. The finishing conveyor is an overhead single chain 530-ft. long, with hangers spaced on 12-in. centers. It travels 12-ft. per minute.

The trichlorethylene vapor degreaser is equipped with a mercury bulb temperature control to assure

Manager of manufacturing at the General Electric Co.'s appliance factory tells how cylinder-type vacuum cleaners are effectively cleaned, spray-painted, baked

By R. W. Waterbury



...for GE Vacuum Cleaners

proper vaporization at all times, regardless of the season of the year. All spray booths are of the water curtain type.

The infra-red baking oven is 57-ft. long and has 18 banks of 250-watt lamps with a rated capacity of 163-kw. *On both sides of the oven, extending along its entire length, are access doors which make it possible to replace any burned-out lamp without shutting down the oven. These access doors also make the oven accessible for cleaning.*

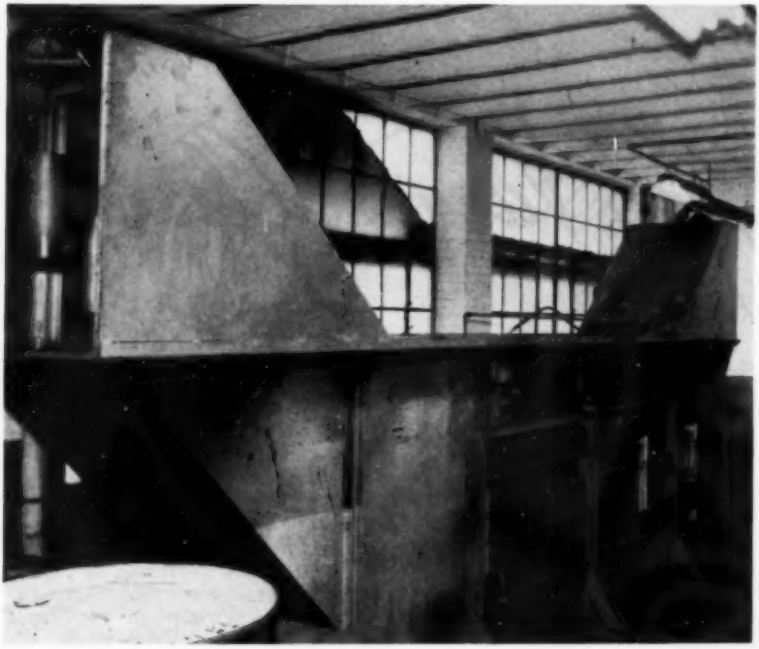
Surface Cleaning and Spray Painting Shells

Cylinders (body shells) for vacuum cleaners are suspended on the finishing conveyor in the fabricating department. Upon arrival in the finishing room, they are carried down into a V-type vapor degreaser by means of a depressed section in the overhead conveyor. Since the cylinders are open on both ends and hang in vertical position, the vapor cleans both the inside and outside surfaces. *(To page 44)*

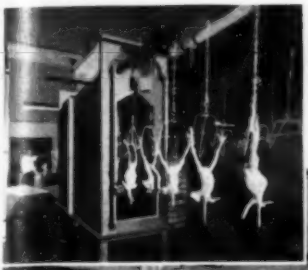
After leaving the degreaser the cylindrical shells travel about 25-ft. before they enter the first spray booth where a coat of synthetic aluminum enamel is applied to the inside of each cylinder. The operator uses wire tongs to lift the free end of the cylinder to a horizontal position, thus preventing any hand marks on the outside surfaces. In this position, the aluminum coat is applied with one stroke of the spray gun, which is equipped with an extension nozzle for 360° spraying. The material is sprayed at a viscosity of 30-seconds at 75° F., as measured with a No. 2 Zahn cup. Pressure in the material tank is 10-lbs. and the atomizing pressure is 40-lbs.

Wrinkle Enamel Sprayed Hot

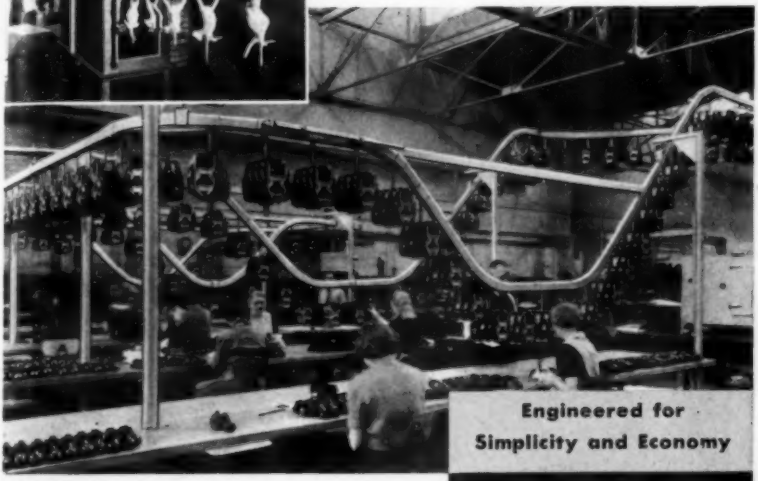
The cylindrical shells are mechanically revolved on the conveyor as they enter the next spray booth. Here a hot synthetic wrinkle enamel—having a viscosity of 65-seconds at 75° F., No. 2 Zahn cup—is applied to the outside surfaces, using 18-lbs. tank pressure and 60-lbs. atomizing pressure. *(To page 46)*



Overhead chain conveyor carries cylinders down into the V-type vapor degreasers. Both the inside and outside surfaces of these cylinders are cleaned thoroughly for painting.



Turkeys or Telephones...



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***For handling efficiency and economy recommend* R-W Power Conveyors**

Efficient, economical handling and movement of materials means lower production costs. Today, in all kinds of plants, Richards-Wilcox Conveying Equipment is solving this handling problem to perfection. The extreme flexibility of R-W ZIG-ZAG Conveyors makes them readily adaptable to the most complex plant layout.

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- Horizontal and vertical wheel units alternate in a continuous chain traveling through special steel tubing.
- Complete flexibility for installation in any plant. Easily installed, easily changed to conform to plant alterations.
- SAFE—all moving parts fully enclosed.
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The paint heater is located between the pressure tank and the spray gun. Wrinkle enamel passes through the paint heater where it is heated to a constant, thermostatically controlled temperature of 195° F. It has been found that in spraying hot wrinkle enamel, more solids are applied uniformly over the surface. Also, the use of heated enamel makes possible a heavier coat with less chance of sags or runs. Of course, through the use of hot synthetic enamel, the quantity of solvents added to the material is greatly reduced.

After leaving this spray booth, cylinders travel about 75-ft., allowing a flash time of six minutes before they enter the infra-red oven where the wrinkle finish is baked for 8½ minutes at 300° to 325° F. The lower heat is used on gray and any other light color.

The cylinderical shells are mechanically revolved as they enter the oven on the left hand side of the entrance, move to the far end, make a hair-pin turn, and travel back to the starting point where they leave the oven on the right hand side of the entrance. The oven is closed at the far end. Cylinders cool as they travel outside the length of the oven and move on to the assembly line. [END]

Using a spray gun fitted with a 360° extension nozzle to spray the coating inside all cylinders. Hot wrinkle enamel is sprayed on revolving cylinders in the second booth.

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THINNER is a **NECESSARY EVIL** . . . unless you use a BEDE HEATER!

BEDE'S revolutionary THERMAL CONTROL system maintains ideal temperature conditions which scientifically reduce the viscosity of paint without lowering the solids.

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Write for Descriptive Bulletin

BEDE PRODUCTS Inc.

INDUSTRIAL FINISHING SPECIALTIES

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2 Tone

Parts for space heaters and stokers are finished attractively in a 2-tone diffused and hammered effect made by a single spraying with a special spray gun which receives ground and accent colors from two heated tanks.

By JOHN RAINE

WE MANUFACTURE space heaters and furnace stokers. The finish on both products has been standardized as to color and pattern, and therein lies the reason for this story. Our space heaters are finished in a brown mahogany ground color, with a dark maroon accent color to form the diffused pattern. Stokers are finished in a light blue slate ground color, with a gray accent color to form a hammered finish.

Why Uniformity of Pattern Is Important

All metal parts are suspended on an overhead chain conveyor in the fabricating department. Then they move through the spray Bonderite section, paint spray booths, infrared oven, and on to final assembly. It is just about impossible to put through even sets of parts for either space heaters or stokers.

Then there is a finished parts stock room in the assembly section;

Finish on Metal

it is serviced by an auxiliary conveyor to accumulate and separate various parts of each unit. The stock room arrangement takes care of any excess parts which come through but which are not immediately needed on the assembly line. Obviously some of the parts finished one day may not be assembled until the next day.

I have gone into a bit of detail so that you will understand why continuous uniformity of pattern, either diffused or hammered, is so necessary in our case. Any variation in color or pattern in any of the component parts would cause rejection by the inspectors after assembly.

How We Used to Spray the Job

Formerly our usual 2-tone and hammered finishes were produced in two operations, during which time the size and diffusion of the pattern depended, to a great extent, upon the individual spray operator. Fluid and air pressure, the distance between the work and the spray gun, and the rapidity of each stroke—all of these affected the pattern.

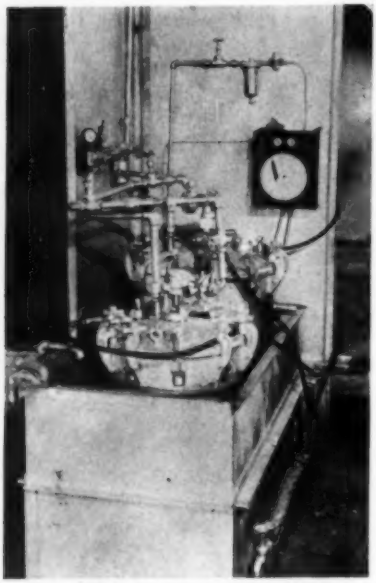
The 2-tone operation method required a skilled spray operator with long experience in this particular

Operator applying ground and accent colors to form diffused pattern in one operation. Notice that spray gun has two fluid hose and one air line; it operates like an ordinary gun.

work, and to attain a high degree of uniformity one operator was assigned to apply the accent color.

We have now eliminated much of the uncertainty and we get a high degree of continuous uniformity of pattern by using the single operation method — spraying the two colors at the same time, with one spray gun.

All parts go through the 5-stage washer where the following operations are performed: 1) emulsion cleaner sprayed at 160° F.; 2) hot water rinse 160° F.; 3) Bonderite at 160° F.; 4) cold water rinse 5) mild chromic-phosphoric acid sprayed at 160° F. Time in washer 4½-minutes.



The finishing materials are sprayed warm. Pressure containers are placed in a tank of water which is heated and kept at a uniform temperature by thermostatic control. This setup not only keeps the material warm; it keeps the material at a uniform viscosity which is highly important.

Coming from the washer, the parts are carried through a gas-fired oven where they are dried for four minutes at 320° F. Conveyor speed is 7-ft. a minute. Traveling toward the spray booths the parts are allowed to cool for ten minutes.

Technique of Spraying Two-Tone Finish

Clean dry metal parts enter the 2-man water-curtain spray booth where the first operator applies a ground coat of solid color. This synthetic enamel is sprayed at a viscosity of 25-seconds, at 75° F. (⅜-in. orifice); fluid pressure is 40-lbs.; atomizing pressure, 75-lbs.

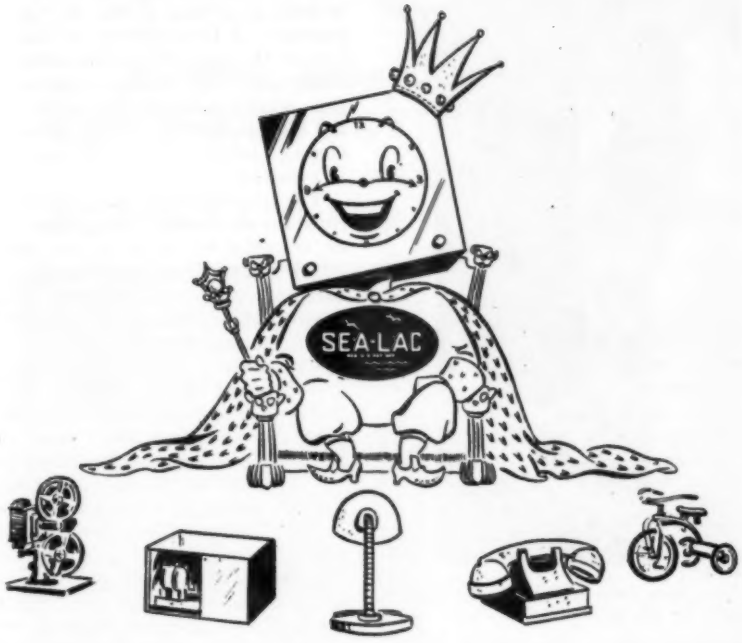
Immediately following this spraying of the single ground color coat, a second operator sprays two colors —a ground color coat and a lighter accent color—from one spray gun.

The second coat of ground color, which goes on in a 2-color combination from a single special spray gun, comes from the same pressure tank as the first coat. The accent color material is also a synthetic enamel sprayed at a viscosity of 19-seconds at 75° F. (5/16-in. orifice); fluid pressure is 40 lbs., atomizing pressure, 40 lbs.

Spray Gun and Tanks of Different Color

The spray gun used for the 2-tone finish is similar, in many respects, to an ordinary spray gun except that it has two fluid inlets. In these inlets are two fluid inserts, which are available in as-

Shine and Reign



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The 2-tone finish is baked in an infra-red oven for 4½ minutes at 330° F.

sorted sizes. The fluid inserts control the amount of each material introduced into the nozzle of the gun. This is what virtually controls the color as well as the pattern of the 2-tone finish, whether it is the diffused or hammered effect. Operation of the gun is similar to an ordinary spray gun.

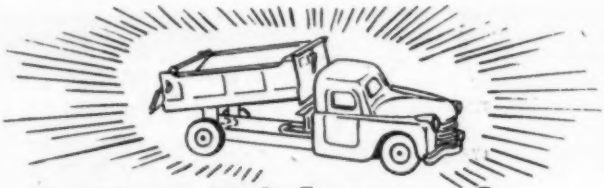
We have a 60-gallon tank for the ground color enamel, and a 30-gallon tank for the accent color. The two tanks are connected by a single air line, to equalize the pressure in both tanks. The material containers are set in a tank of water which is equipped with a thermostatically controlled heating unit and a visible recorder which indicates the water temperature. Water is kept at a heat of 85° F., which produces a temperature of 75° to 80° on the material in the pressure containers. Of course some heat loss accurs between the tanks and the spray guns, but with preheated enamel, better control of viscosity is possible.

The ground color enamel is under constant agitation. The accent color material is agitated for about 30 minutes before starting in the morning and again at noon. This equipment is cleaned in the usual manner at the end of each day.

Parts leaving the spray booth travel about 40-ft., which allows about six minutes flash (air drying) period before they enter the infra-red oven where the 2-tone finish is baked for 4½-minutes at 330° F. Flat sheets go through the oven in a position parallel to the conveyor, while those having a flange or rounded side are turned by the spray operator so that they will go through the oven at about a 45° angle; this position assures an even baking of flanges and sides of the part.

Cleanliness an Aid To Production

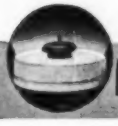
I have previously mentioned that the equipment is thoroughly cleaned at the end of each day. This is a positive rule. Also, each spray operator has a gallon can of solvent and a bristle brush which has a long handle. Once or twice each hour during operations, he brushes the nozzle of his spray gun with



Better, Brighter and....
TOY PRODUCTION UP 33⅓%
with
BURDETT (INFRA-RED) GAS SYSTEMS

Here's good news for the younger set! Burdett Infra-Red Gas Systems at the modern plant of Structo Manufacturing Co., Freeport, Illinois, have materially increased the output of the 37-year old line of Structo "live action" steel toys. Production today is 8,000 of these bright colored scale model toys . . . which is 33⅓% increase in production as compared with the outmoded system of electric lamps. Baking for 5-minutes at 290° F., the finish is tougher . . . resists scratch and marring during final assembly and shipment. There's definitely more accurate control over the operation, too—resulting in a uniformly higher quality toy guaranteed to please every boy (and his dad, as well!).

Send your specifications TODAY for Burdett's Engineered Recommendations—Get the all-new 12-page Illustrated Bulletin.



3425 West Madison Street • Chicago 24, Illinois

BURDETT MANUFACTURING CO.
INFRA-RED GAS BURNERS

solvent. If one or two hooks on the conveyor line happen to be empty occasionally, this "gap" will allow the spray operator time for this simple but very important cleaning job.

Cleanliness always pays off profitably in plant operation. It helps to keep the equipment and all small devices and accessories in better working condition—and, when something is even slightly damaged or, about to become less effective or completely out of order, the fact is discovered in time to have the part repaired or replaced, so that no interruption occurs in production. To illustrate the production possibilities of a combination of cleanliness, good equipment and correct methods, two spray operators, working as a team apply our 2-tone finish at the rate of 4500-sq.ft. per hour.

Finishing Heads of Screws and Bolts

PAINTING the heads of screws and bolts often present quite a problem. These are small items and if it were permissible to coat the threads too, they could be dipped, dip-whirled, or tumbled. But threads filled with paint are undesirable if not impossible, insofar as the user is concerned.

One way to paint the heads of screws and bolts is to place them in a rack and spray them. Build a metal frame or rack and cover the top of the frame with wire mesh of suitable size to permit the threaded part of the screw or bolt to drop down through, so that only the head shows on one side. When every mesh is filled, the heads present an almost solid surface for spray painting. This arrangement will minimize the waste from overspray. Depending upon the size of items to be painted, the rack may accommodate 50 to 500 screws or bolts.

Because the individual surfaces to be finished are comparatively small, it does not follow that careless or slipshod methods may be employed. The racks should have some means of suspension so that the items can be thoroughly washed either in a metal washer or in dip tanks, and the moisture removed in a dry-off oven. Also, it will be necessary to prime the heads and bake the prime coat before applying the finish coat. If primer is not used, the screw driver may chip off the paint around the slot. The same thing applies to bolt heads, except that in this case chipping takes place around the edges where the wrench contacts the head.—C.B.

Industrial Chemical Conferences in Chicago, Oct. 12-16

The program of the National Industrial Chemical Conference will run concurrently with the National Chemical Exposition, under the same roof at the Chicago Coliseum, Oct. 12-16, 1948. The program, almost complete, contains the names of 18 world famous speakers who will discuss subjects of interest for the executive and technical personnel of all industry — chemical and non - chemical (chemical consuming).

The National Industrial Chemical Conference program is designed to be of particular help to non-chemical (chemical consuming) industry and small business firms.

W. G. Mengel Becomes Head of Napko's Technical Service

William G. Mengel, formerly of York, Penna., has joined the Napko Paint & Varnish Works, Houston, Texas. Mr. Mengel has had 20 years of experience in the industrial coatings field, nine of them as technical service representative with a large manufacturer of finishes in New Jersey. Mr. Mengel's thorough familiarity with test procedures, production and application of all types of industrial coatings qualify him to head Napko's new industrial technical service department.

COMPLETE FINISHING SYSTEMS

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● The high cost of inefficient production methods is too high. When products are priced too high, people will not buy them—and that's not good for any manufacturer's earnings statement. To meet today's competitive conditions you may need to take a new look at your finishing department. Often a new or redesigned **KOCH-ENGINEERED** finishing department will not only enable you to produce *more* units at *less* cost, but will give them *added* value because they are finished *better*. This means more sales at more profit in any man's language—frequently sufficient to pay for your **KOCH-ENGINEERED** finishing set-up in a very short time. Ask us to show you how *your* finishing department can be modernized for greater profits. Address

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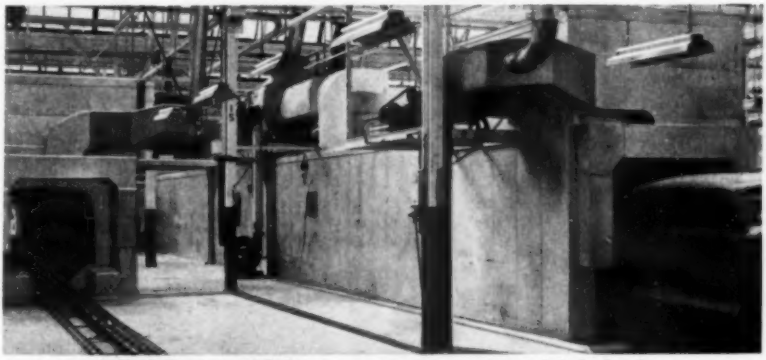


A Koch-Engineered baking oven set-up in an automobile body plant

GEORGE KOCH SONS, INC.
EVANSVILLE, INDIANA

Flame-Proofed Fabrics

Reeves Brothers, Inc., 54 Worth St., New York 13, N. Y. (manufacturer of quality cotton fabrics) announces a durable flame-resistant finish for fabrics—a finish that will withstand washings or dry cleanings. Reeves Brothers announces that this finish is now available for application to its own fabrics and, through its subsidiary, the Fairforest Finishing Division, is also available for job finishing.

Arco Co. Replaces Destroyed Lacquer Plant

After several weeks of hectic activity, The Arco Co., Cleveland, Ohio, is again in a permanent, modern functional layout housed in five insulated, Quonset-type buildings which replace the lacquer plant destroyed by fire March 5th.

Construction of the new $200,000 layout was started March 29th with the pouring of a 4-ft. concrete wall for the main manufacturing building, and ended in July.

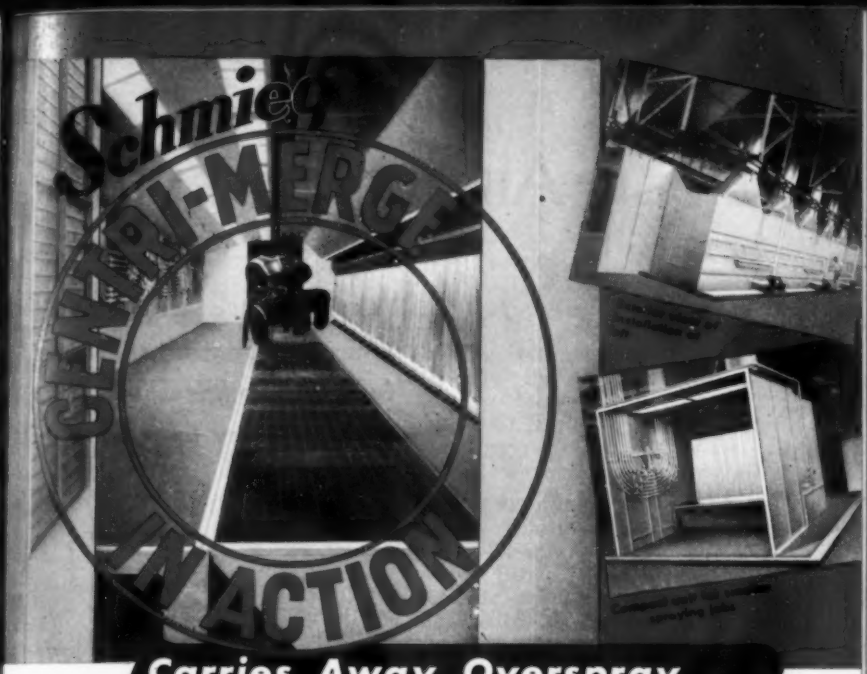
Howard E. Wise, Arco president, declares that completion of the plant before late Fall would have been impossible without the cooperation of equipment manufacturers and some of their customers who waived prior claims on certain equipment.

The new plant adjoins a brick building which contains the lacquer production testing laboratory and facilities for storing pigments and other materials. Floors are specially-compounded concrete, so treated to make them spark-proof.

In addition to the main structure, the layout includes four other new Quonsets. These are used for, 1) blending lacquer thinners, 2) storing nitrocellulose, 3) housing pumping equipment, and 4) cleaning portable tanks and other equipment.

The entire 5-building project and processing layout includes a number of special safety features. The main building for example, provides for floor level ventilation and the use of self-closing covers on mixing tanks. An automatic sprinkler system, fed by 8-in. water lines, also has been installed. Other buildings are equipped with large capacity hose stations fed from carbon dioxide cylinders.

Howard E. Wise, president of The Arco Co. (left) presses the button which signals resumption of full-scale lacquer production in the new plant in Cleveland, Ohio. Charles R. Hosken, works manager, and Raymond C. Grainger, lacquer plant superintendent (left to right) are looking on. The new plant replaces facilities destroyed by fire March 5.



Carries Away Overspray . . .
IN A WHIRLING TORNADO OF WATER

PAINT-LADEN AIR IS "TORNADO" CLEANED. Operators, working in a Schmieg Centri-Merge Spray Booth, are adequately protected from fire and fumes. Overspray is carried on an air stream *horizontally* away from work into a curtain of water, pressure-fed through slots extending continuously full width of booth, that descends down the flood sheet. The mixture of fume and paint-laden air and water is then whirled under the flood sheet and hurled with tremendous impact against the impingement wall at back of booth. Down this impingement wall flows an additional sheet of water that floods the foreign matter, pounded out in the process, into the sludge tank below. Only CLEAN AIR passes through exhaust fan. Thus the danger of fire is suppressed both in front and behind the flood sheet. Because the ratio of water and air is far greater in Centri-Merge, paint and other gummy substances do not pile up on the hard-to-get-at walls of the chamber behind the flood sheet; therefore, cost of repeated cleanings is eliminated.

Consult Schmieg engineers regarding your problems of dust and fume control.

THE *best* AIR PURGE is CENTRI-MERGE

Schmieg INDUSTRIES INC.

Engineers & Manufacturers

312 PIQUETTE AVENUE • DETROIT 2, MICHIGAN

Clean Air for Spraying

What I found wrong with a new installation that now furnishes compressed air to several spray operators.

By ELTON STERRETT

HOW LITTLE some of us—even architects and engineers whose business it should be—know about air. And when we compress air as a means for transferring energy or effort, the ratio of knowledge seems to vary inversely as the pressure.

I've just come from a personally conducted tour through a new custom finishing shop especially designed for processing steel drums of the familiar 55-gallon size, as well as the smaller half-drums and containers down to the 5-gallon paint buckets. In the engineer's layout and handling of the compressed air system there are headaches at every turn.

Supply of Foul Air Plus Heat

First off, the air compressor is set right next to a railway siding and adjacent to the company garage. Intake air is fouled by clouds of dust, smoke and fumes every time a train passes, and the exhaust and oil from the garage is only one step less serious an obstacle to clean air.

The air receiver, a vertical tank big enough to hold plant requirements for a day's operation in case of compressor shut-down, backs right up to the 45-hp. vertical boiler which furnishes process steam. The receiver is hot enough to fry eggs on the boiler side, and only a few degrees cooler on the opposite side.

Compressed air lines leading to the sand-blasting and spray-painting booths, run overhead, and for more than 50-ft. they are directly above gas-fired drying ovens.

This installation is in an area where the average annual humidity pushes the 50% mark. Apparently everything possible has been done to hold a high temperature on the air until it reaches the point of final use. There the entrained moisture, still in vapor form due to elevated temperature, condenses as the air expands through the air blast or spray nozzle. The use of moisture loaded air for atomizing and spraying paint onto steel surfaces is sure to result in pinpoint corrosion and water blisters. Of course, the right kind of separators will

R-E-A-C-H

Add six inches to seven feet to the reach of your regular spray gun with Binks Standard Extensions.

These extensions and spray heads make it possible for you to do a first class spraying job in hard-to-get-at spots. No matter how awkward the place is, there is an excellent chance a Binks extension will reach it quickly and easily.

Binks extensions are used with your regular Model 18, 19, 7 or 21 spray guns. Fluid and air are controlled from the back of the gun as usual.

The spray heads starred (★) use all standard pressure nozzle setups made for Binks Model 18 and 19 spray guns . . . permit graduated adjustment of the spray pattern from round to flat. All other spray heads are available in either round or flat spray models, but are not adjustable. Model EA is obtainable with tungsten carbide inserts for spraying abrasive materials such as frit used in the porcelain enamel field.

"...above all, we must be helpful to our customers...must show them how to get the most from their finishing equipment."

J. J. Roche
President

Binks MANUFACTURING COMPANY

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remove excess moisture from compressed air, given adequate capacity and time.

Cold Air Carries Less Moisture

In this plant the engineer-designer failed to take advantage of the best drier of them all—dropping the temperature of the air as soon as possible to reduce the amount of free moisture which the air can carry. Furthermore, if the compressed air lines had been run in trenches formed into the concrete floors of the plant, they would have been under practically constant cold conditions the year around; and any entrained moisture which got past the receiver and the trap at that point would certainly collect in the trap or separator installed at the risers leading to the points of use.

The present overhead lines, kept warm by their position and closeness to heated equipment, will carry air of high moisture content, although it is inevitable that some moisture will condense in the 100-ft. lines. But this condensed moisture will be carried with the air stream and be aided by gravity in reaching the air-using equipment. Even if separators are placed at each work station, they may be overloaded or required to filter out several times the quantity of fluid which would come their way in a properly designed system.

Initial cost of the overhead pipe lines for the compressed air supply was less than would have been the case if buried or trenched lines had been specified; and less, perhaps, than if the compressor site had been chosen primarily for best raw air conditions. But the cost of rejects or refinished work over the first year's operation would, if applied to air system revision, more than cover the spread in initial charges. And, more important even than the primary dollar outlay, the management would have been spared the headaches which are sure to follow when excess moisture in the air lines begins to follow natural laws and, aided by gravity, take part in spray gun and blast nozzle operation.

Ditzler Color Divn. of P.P.G. Co. Promotes Two Men

Appointment of Rolland I. Peters as technical director of Ditzler Color Division, Pittsburgh Plate Glass Co., is announced by William T. Utley, divisional director.

Rolland I. Peters and Harold W. Redshaw.

Associated with Ditzler since 1936, Mr. Peters succeeds M. G. Bell, who will enter business for himself as a Ditzler jobber at Seattle, Wash. Mr. Peters attended the University of Illinois where he graduated with honors in Chemical Engineering. He had served as assistant technical director under Mr. Bell.

Harold W. Redshaw has been appointed to the position of assistant technical director. An honor student at the Detroit Institute of Technology, Mr. Redshaw has been associated with the Ditzler laboratories since his graduation in 1935 as a Bachelor of Science in Chemistry.

FINISHES

Cleaning Painting Baking SETUP *in small space*

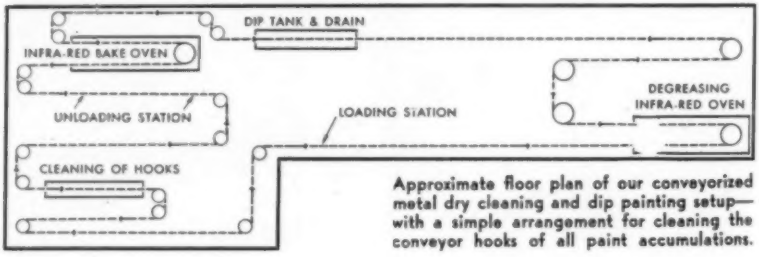
General Manager of Ackermann, Blaezzer & Fezzy, Inc., tells how engineers solved the problem of providing cleaning, dip coating and baking facilities for painting auto parts in minimum space.

By Albert V. Crump

ENGINEERING AND modern equipment helped to solve the problem of degreasing, dip coating and baking coatings on automobile window regulator parts in a minimum of space. The entire operation is mechanical. Parts received from fabrication are suspended by hooks from an overhead chain conveyor which carries them through the various operations, after which they are removed, ready for assembly.

Conveyorized Equipment in Long Narrow Room

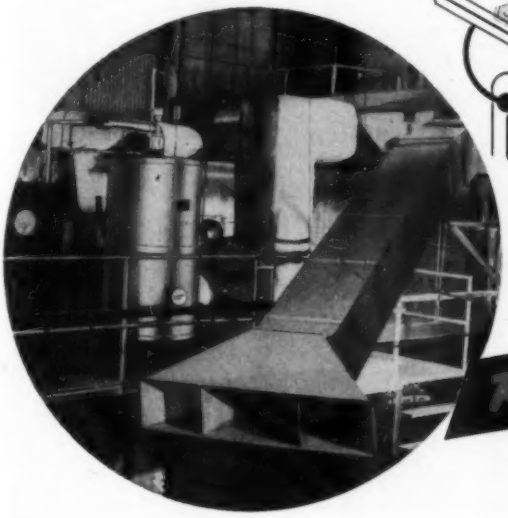
The entire finishing room occupies a space only 10-ft. wide by 78-ft. long. The room is adjacent to fabrication and assembly rooms. It has a concrete floor and is enclosed by solid brick walls. Equipment in-



Approximate floor plan of our conveyorized metal dry cleaning and dip painting setup—with a simple arrangement for cleaning the conveyor hooks of all paint accumulations.

PROBLEM...

to design and install an efficient drier without utilizing floor space!



RESULT

ANSWER...

Ferro engineers were put on the job . . . Working as one part of a team, Ferro engineers designed a 1,000,000 BTU direct gas-fired heater requiring only *one cent or less* for fuel* to process each unit range body in ground coat . . . Other Ferro engineers installed an efficient monorail drier (consisting of housing, fans, controls, etc.) expertly positioned in unused overhead space — leaving previously occupied floor area for other use.

Satisfied Customer: **TAPPAN STOVE COMPANY**
Mansfield, Ohio

* 1000 BTU fuel • 1000 cubic feet per hour • 50c per 1000 cubic feet

FERRO
enamel corporation

4150 East 56th Street
Cleveland 5, Ohio

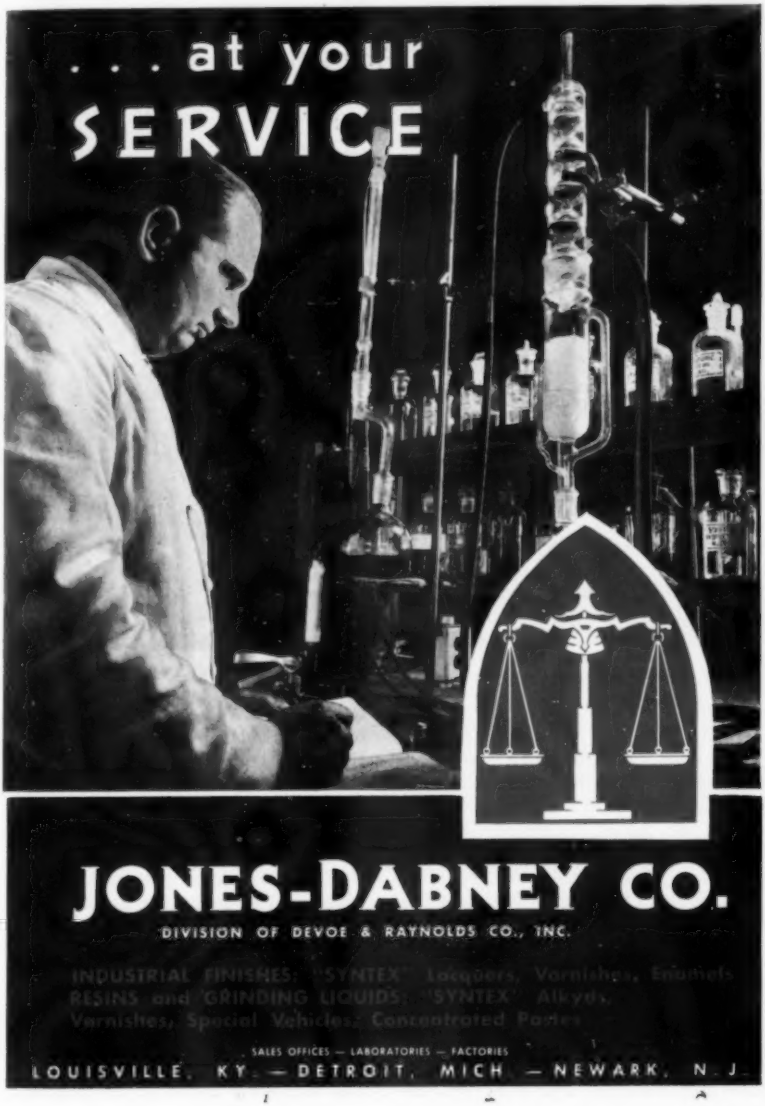
Regulator parts entering and leaving infra-red degreasing oven by overhead conveyor.

cludes an overhead chain conveyor 450-ft. long, with hangers spaced 3¼-in. on centers; an infra-red degreasing oven; a dip tank 14-ft. long, and an infra-red bake oven 12-ft. long.

An enclosed, elevated space 3-ft. wide by 25-ft. long, adjoining the finishing room, contains a dip cleaning tank and drain (for cleaning conveyor hooks) through which the conveyor passes between the unloading and loading stations. The coated ends of conveyor hooks are mechanically cleaned and dried after each trip through the paint.

All dip tanks are protected by automatically controlled fire extinguishers mounted directly above the tanks. All ovens and tanks are equipped with exhaust ducts to remove solvent fumes. The room has fireproof lights.

Parts are suspended from the chain conveyor at the loading station. They are carried up to the degreasing oven where oil and grease are removed in five minutes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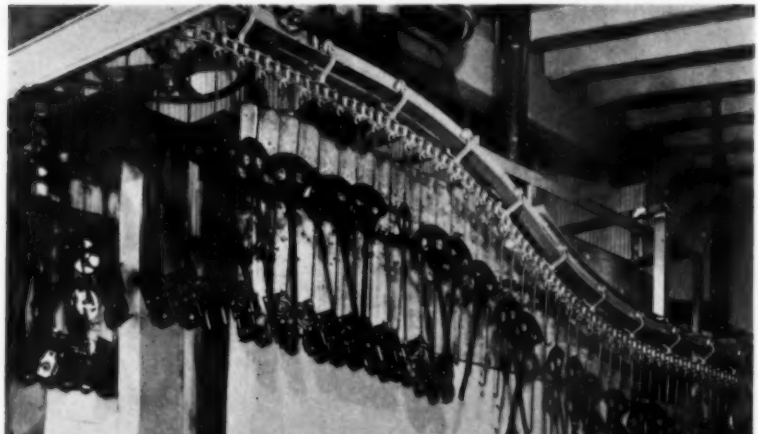

Regulator parts leaving the infra-red oven. Two exhaust pipes carry off solvent fumes.

at 425° F. They cool as they travel toward the dip tank which is at floor level. A downward dip in the conveyor rail causes the chain to carry the hanging parts through a tank of black synthetic enamel (flash point 90° F.) in an edgewise position which minimizes bubbling and skips. The angle of dipping by the conveyor is designed to prevent material from webbing on parts that have openings.

After leaving the drain pans the coated parts travel alongside the elevated, infra-red bake oven, to complete their draining. They enter and leave at the front of the bake oven. The black coating is baked for three minutes at 350° F. This is a high-level oven, and the heated parts cool as the conveyor carries them down to the unloading station.

Just beyond the unloading station the conveyor rises again to a high level to carry the empty hooks through a tank of solvent and over drain pans. It is here that the hooks are cleaned. As the hooks travel upward to the loading station, the solvent evaporates so that clean dry hooks are always ready to receive new work in process. The finishing cycle is 50 minutes.

Mr. Zeller created Stewart-Warner's "shadow-box dial" design and developed the "Blush" finish which reveals that rich natural color and grain in selected mahogany.

CHIEF DESIGNER FOR STEWART-WARNER Corp.

Radio-Television Cabinets

FOR MANY years the radio and radio-phonograph have played a significant role in the home recreation life of our nation. But now television is emerging almost overnight as a major source of entertainment, and as people rapidly discover that this fine new entertainment is available right in their own living rooms, they will begin to spend much more time at home. The social changes brought about by television may not prove to be so great as those effected by the automobile, but they surely will be of considerable magnitude. Accordingly, we can feel safe in predicting that the home will come to assume a far greater importance in modern American living.

This revival of family entertainment and the subsequent interest in home gatherings cannot help but bring with it a new emphasis on home furnishings. Mrs. Housewife will have a vastly increased concern for the appearance of her home as it comes under the close scrutiny of her friends more and more often than in the past.

Radio Plus Television Changes Home Setup

It is to be expected, then, that radio with the addition of television must also begin to take up an important position in the plans of the home decorator. Reasons for this change are quite evident. To begin with, activity in the living room will tend to form around the television and radio receiver.

The family will see their favorite program instead of merely hearing it. Furthermore, not only will they want to be comfortable while viewing the televised program, but they will also look for a method of arranging the seating so that all can fully enjoy the picture. In this way, the radio-television set will turn into a focal point in the scheme of any living room.

Color will be given added emphasis and consideration, as the room and furniture finishes become a more important part of this new pattern of living. Every decorator

A. D. I. is the American Designers' Institue, a national group of industrial designers.

"Mount Vernon" FM-AM radio phonograph.

will have to make this new instrument for entertainment a major consideration in his planning of interiors.

Interiors and Furniture Influenced by T. V.

Furniture designers, interior decorators, and architects will unite their talents to bring into one well organized design a home theatre in which color and finish will be used to increase the enjoyment of the home television. Because this new entertainment is visual, the general pattern of the color scheme of the room, as well as the television receiver, will take on a quiet restfulness so as not to distract from the image, but still add beauty and charm to the home theatre setting.

Naturally the designer of television units must consider numerous other vital factors. For example, the receiver must be so styled as to be deserving of the key position which it is to occupy in the house. Its styling must be such as to present an attractive appearance when the instrument is not in use. As always in well-designed furniture, the finish will contribute immensely toward this end.

Good television design demands observance of basic trends in the design of modern interiors. One of these important trends is toward smaller scale and simplicity. Television must follow this prevailing tendency. Present radio-television units are too massive. The average home is not set up to handle the bulky package or present-day receivers.

Trends in Design of Radio-Phonographs

In the case of the radio and radio-phonograph, recent progress in the field of electronics has made it possible to secure better performance from a chassis with fewer tubes and of smaller size than was formerly obtained from much larger receivers. These advances have been noticeable in the trend toward increasingly compact and efficient units for the radio-phonograph combination.

Technological changes have made it possible for the radio stylist to design his cabinets more in keeping with the scale of modern furniture. Included in this technological advance is the development of new finishes which, by their transparency and clarity of color, add beauty and lightness to these already large packages.

Stewart-Warner engineers and designers are at work solving the same "scaling" problem for the

Super FILLING—

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in ONE QUICK OPERATION with . .

RED X **DURAFILL** FUSION-TYPE FILLER

Durafill contains the exact pigments of the finest filler, is easy to wipe; and because it is not sticky, cuts off cleanly, leaving the pores completely filled to the top.

Durafill filler can be recoated immediately (after wiping) with lacquer sealer which permeates the filler and hardens-with-the-filler as one. Thus, "fused" with the sealer, the filler is held firmly in the pores . . completely protected against shrinkage and wear.

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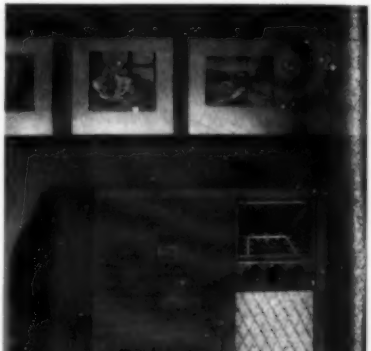
radio-television receiver. Radio-television sets are now being engineered that will provide the consumer with powerful, sensitive, reception and larger picture screens in cabinets of more compact size. Stewart-Warner designers will make use of special finishes they have developed to assist them in creating these designs.

Simplicity of Design; Color and Finish

It is interesting to note that throughout the past decade, leading home builders and architects have evidenced a similar tendency toward smaller scale and simplicity. To be sure, these results were achieved during the early stages of this trend in design, but they were subordinated to the stress of functionalism.

Today, all three elements are being universally employed, while at the same time functionalism has been modified to allow for the factor of appearance. The obvious basis for this change is that functionalism, at the sacrifice of appearance, is cold—and coldness is not in keeping with the demands of an American home. This coldness is being relieved by the use of color, texture, new materials and new techniques. Naturally, all these new architectural principles will have a direct bearing on the thinking of radio-television designers.

Stewart-Warner has given special emphasis to color and finish. Cabinets in such solid colors as jade green, Chinese red and ebony are offered, along with the conventional pigmented and bleached mahogany, plus dark and French walnut.



"Palm Springs" model in "Blush" mahogany.

Natural Mahogany "Blush" Finish

The latest finish developed by Stewart-Warner is known as the "Blush" finish. This is a distinctive new, truly natural mahogany wood finish, produced without the use of chemical impregnations, stains or paints. It depends for its luster and pattern on the natural wood grain, and for its color on the tree-grown pigmentation of the wood. The result is a rich glowing "Blush" color enhanced by the fine delicate grain of beautiful mahogany.

After a year of research and study conducted by Stewart-Warner's radio design department, the

MAR-PROOF LACQUER

SCHAEFER'S Mar-Proof Lacquer is a performance-proven finish that cannot be easily marred or scratched.

It's tough—tougher than the ordinary lacquers; meets the most critical requirements of current production.

Made in either clear gloss rubbing or satin finish, it produces a splendid transparent coating of full depth on maple, walnut, gum, mahogany and other cabinet woods.

Economical; gives plenty of coverage and dries quickly. Our Mar-Proof Lacquer Sealer is recommended with it for a first-coater.

Working samples furnished without obligation. Write for them!

THE SCHAEFER VARNISH COMPANY, INC.
Louisville, Kentucky

SCRATCH-PROOF

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STANDS LOTS OF ABUSE

"Blush" finish was created. It fulfills the definite requirement for a furniture finish in a light mode which also has warmth and beauty, and in which the natural wood grain and figure have not been lost through artificial processing.

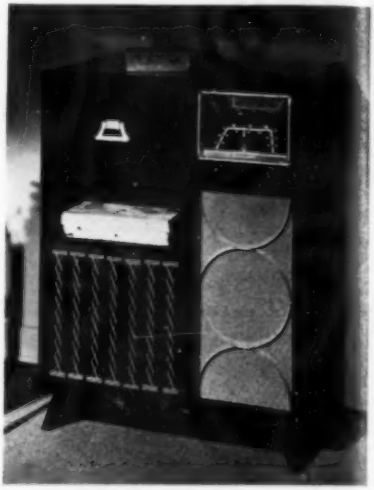
White Filler; Clear Lacquer; Rich Warm Glow

The natural pigment is brought out from the wood by application of a white filler and a crystal clear lacquer properly rubbed to give a rich warm glow to the finish. The resultant tones and more natural appeal are definite improvements over some of the colder and more artificial bleaches. By the nature of the process this new finish will not only retain its basic characteristics but will be enriched with more mellow tones as it ages.

The "Blush" finish harmonizes equally well with other high-styled modern interiors, or with transition arrangements including lighter Modern and darker Period furniture pieces. There are many applications of the "Blush" finish for furniture pieces. Stewart-Warner plans to use this finish to produce television cabinets that will be new in purpose and design, as well as in finished appearance.

Styling and Finish to Meet Higher Standards

The radio and television styling that receives wide acceptances in the future will be that which conforms to the American public's rising standards of good taste in decoration. The modern woman knows more about good styling and tasteful interiors than past generations ever dreamed of knowing.

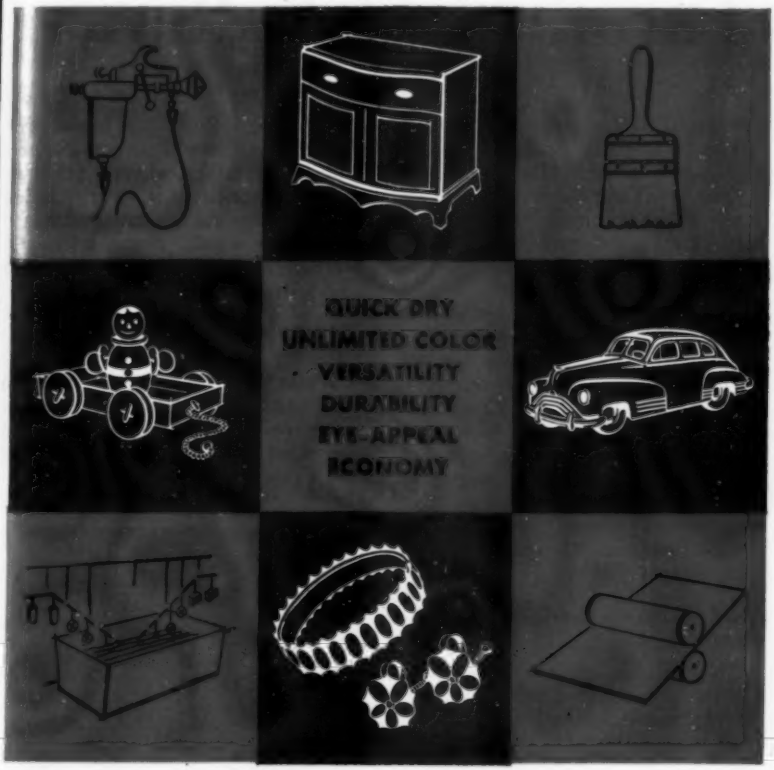


"Calcutta" ebony black radio-phonograph.

The matching of colors and furniture styles becomes a primary concern in the planning of her home.

Higher levels of consumer income, better educational facilities, and wide circulation of home furnishing periodicals have all had their part in making American people more discriminating; therefore the future will see not only a return of family life to the home, but it will find the home an increasingly beautiful, colorful and enjoyable place in which to live.

Editor's Note: A graduate in industrial design at the University of Illinois, in 1942, Mr. Zeller became head of the Stewart-Warner radio design department in July, 1947. He joined Stewart-Warner as a designer in 1946 after working with G. McStay Jackson, Clarence Karstadt and other industrial design organizations.



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Furniture Style Review

FUNCTIONAL was the word at the American Furniture Mart's 1948 Summer Market in Chicago. Functionalism in bedroom and dining room lines meant the almost standard twin dresser which was apparent in period as well as modern lines. There were flexible units which could be moved to form a variety of combinations, such as dressers; and dining room units of identical height which might be used in combination. There were removable and portable desk units and cabinets which could be stacked one upon the other or changed to various pieces of furniture, and there were flexible units which might double as knee-hole desk, vanity or server.

New Finishes for Several Woods

New finishes add to the interest of these functional groupings, with lighter notes on the traditional walnut and mahogany cabinet woods, and darker tones on oak, maple and birch. A new "bayleaf" finish on walnut, used by one manufacturer, describes the new, lighter walnut tone — a soft, tawny grey-brown which adds new beauty to the wood.

Cocoa mahogany is a lighter variation of the dark mahogany theme. Much of the harvest and bleached tones are still in evidence. New woods such as Korina and Almon, combined with the traditional cabinet woods, add a new note; and oak, shaded to resemble traditional walnut and mahogany tones, is in the fashion picture. Maple, birch and cherry put emphasis on their soft, warm finish which brings out the inherent beauty of the wood. Some lacquered pieces and ebonized oak groupings add a dramatic touch.

Modern and Period Designs in Evidence

While modern predominated in the bedroom and dining room lines, many new Colonial groupings, an increased showing of French Pro-

(Continued on page 86)

A useful cabinet in attractive blond ash.

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vincial and many well-styled lower priced 18th Century suites interested many buyers.

Trends which looked a bit different, fashionwise, in the new bedroom and dining room lines were: increased use of well styled polished brass drawer pulls; matched veneers with the grain of the wood adding the sole decorative touch; mouldings with mitered corners framing case pieces and footboards of beds; 12-drawer chests built into a single unit case piece; woven plywood used as trim on doors of bedroom and dining room groupings; and dining room chests with built-in bars, linen storage cabinets, etc.

Larger Occasional Pieces; Television Tables

In addition to the large occasional pieces which, in many instances were composed of units that fitted together into sections to form the larger tables, and which could be broken apart and used individually or stacked into end-table units, interest centered around new and larger breakfronts which returned to a number of lines for the first time since the war.

Television tables, especially designed to accommodate table-model television sets, appeared both in modern and period design; and safes built into period cabinets added a note of new interest. A silver chest, in period design, with drawers to accommodate a complete silver service; an increased number of record chests and combination bars were new in the occasional field. Of interest in the promotional lines was a grouping of tables finished with a plastic veneer resembling genuine leather. Unpainted furniture with decalcomanias was another marked feature.

In line with the trend toward larger occasional tables were oversize lamps fashioned of leather, wood, china and in some instances plastics and fabrics.

DOES YOUR finishing superintendent know the essential facts about his department processes? For example, metal cleaning (if your products are metal) and surface preparation; applying the coatings, and force drying or baking them?

It may surprise you, but I have come across several cases of gross ignorance in plants small enough for the superintendent to have close personal contact with all operations, and still large enough for management to have an active and alert man in charge of production. Frankly it is amazing how some plants operate and how some firms stay in business.

I do not claim to have all of the answers, but some of these people in business stumble along in utter darkness, depending upon suppliers and salesmen who call on them to carry the burden of knowledge, to give them advice, to figure out their problems and give them the answers—and I don't mean only superintendents. Some of the executives are out of touch with what is modern in their line, too.

To me this is one excellent reason for management to bring new blood into the business. They could pick up a few new ideas—and there are always enough old timers in the organization to balance the equation.—P. X.

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- Correct heat for burning-in.
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Tripod Finish

We are looking for a finish on metal to replace cadmium and zinc, which we are now using on tripods for our projection screens. We are interested in adding color, if possible, and would appreciate your advising us by return mail if you know of any such processes and their sources.—Radiant Mfg. Co.

Duratite Wood Dough

Thank you for your letter of June 25th asking whether we still manufacture Duratite Wood Dough and Duratite Surfacing Putty. Yes, we do, and we immediately mailed your reader samples of these products, and a list of jobbers handling our products in Chicago and Indiana. We are sending you one of our interesting and descriptive booklets called "Speed".—Webb Products Co.

To Fill Hairline Cracks

Will you please give us any information you can about a material that will work like a wax that can be used to fill in hairline cracks on top of a varnished dresser top? We find that we cannot burn in over varnish because the varnish scrapes off when cleaning up burn in job.—N. C. Co.

We are referring you to possible sources of information on this subject.—ED.

Blue Metal Glaze

We noticed an article in June issue of INDUSTRIAL FINISHING, on page 86, referring to a non-shrink putty called "Blue Lead Glaze". We would appreciate it if you would send us the name and address of the manufacturer of this material.—M. M. P.

This is a product of Newark Varnish Wks., 136 Chestnut, Newark 5, N. J.—ED.

Waterproofing Wood

On page 110 of May issue we notice a paragraph of "Random Comment" about "Water-proofing Wood". I would appreciate your advising me as to the firm that has this patented, and whether or not you have any information on same—or we would appreciate your writing the firm that has this and have them contact us, as we use considerable wood construction in the fabrication of our refrigerators and we would be very much interested in this item.—E. F.

This material was patented by William McMahon of Summit, N. J., who assigned his rights to the Bell Telephone Laboratories, Inc., 463 West St., New York, N. Y.—ED.

Trick Finishes Wanted

One of your recent issues of INDUSTRIAL FINISHING carried a request for tear sheets of an article entitled, "Trick Finishes", as published in July 1945. If tear sheets are still available, I would greatly appreciate a set.

Among other items I refinish quite a number of coin-operated machines such as cigarette, peanut, candy and beverage dispensers; juke boxes, pin-ball and slot machines. Although I use spatter and veiling guns, and have a fair line of plastic veneers, I often find my jobs becoming too sterotyped, and the above article may relieve this situation.

Congratulations on your 24th anniversary of a valuable publication.—F. A. S.

Tear sheets of article being sent.—ED.

Temperatures for Spraying

Please advise if you have any tear sheets covering different types of paints and different temperatures at which they should be sprayed for practical purposes. —R. P. Mfg. Co.

We haven't anything exactly on this line, but have published articles wherein mention is made of certain materials being heated before being sprayed. Suggest you consult the manufacturer of your finishing materials.—ED.

Book on Roller Coating

Will you please let me know if there is a good book on the market explaining all about roller coating?—G. N.

We do not know of any book about "Roller Coating." There is probably no book published on this subject. In past issues of INDUSTRIAL FINISHING Magazine we have published a few articles on the subject of "Roller Coating", but the demand for these has been go great that no

Protection Inside

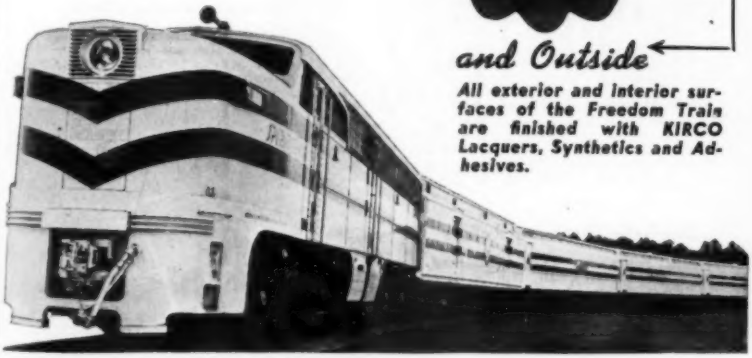
KIRCO LACQUER is the Protective Coating on KIDDE carbon dioxide fire extinguishers and extinguishing systems. They are standard equipment on the Freedom Train for safeguarding its priceless contents against fire damage.

A number of leading national firms have standardized on KIRCO Modern Coatings for their products.

Your production finishing problems are our specialty. KIRCO'S laboratory staffed by experienced and skillful chemists is at your service. Perhaps, we can help you.

and Outside

All exterior and interior surfaces of the Freedom Train are finished with KIRCO Lacquers, Synthetics and Adhesives.



Watch for the Freedom Train. See the priceless original documents which guarantee your personal liberty. See how they give meaning to the American heritage, vitality to its spirit, and inspiring faith in the future.

KIRCO MODERN COATINGS

Kirker CHEMICAL COMPANY

ONE EAST ELEVENTH STREET • PATERSON 4, NEW JERSEY

copies or even tear sheets of these articles are now available in this office. Perhaps you might find something on the subject in your public library (at Chicago, Ill.).—ED.

Whose Synthetic Varnish?

In the "Random Comment" columns, on page 7 of June issue of INDUSTRIAL FINISHING, we read an item referring to a new synthetic varnish. We are interested in this material and, if possible, would like to know to whom to write for full details.—T. S. Co.

We do not know the name of the manufacturer. Suggest you write to the American Chemical Society, Mills Bldg., Washington, D. C.—ED.

Articles on Testing Paints

In the June issue of INDUSTRIAL FINISHING, on page 84, under the title, "Testing Paints, etc.", you say, in answer to an inquiry, that you have published articles on this subject. I have referred to my previous issues of INDUSTRIAL FINISHING and do not find anything pertaining to testing the quality of paint and its adhesion.—D. R.

Our reference card on this subject shows the following:

May	1947	page 83
March	1947	page 77
September	1946	page 126
November	1945	page 36
May	1943	page 32

The page number refers to the page on which each article begins. Some of these were illustrated features which extended over several pages. All of the articles were so much in demand that we have no more back copies or tear sheets available. Perhaps your local library has copies—or some of the several manufacturers located in your city (Trenton, N. J.).—ED.

Synthetic Graining Rollers

In the February 1948 issue of INDUSTRIAL FINISHING, in the article entitled "Production Graining", by W. B. Leil, we notice mention of some recent developments in graining techniques, etc. We would appreciate receiving names and addresses of suppliers of synthetic rubber graining rolls and hard chrome surfaced copper graining plates.—S. L.

The author of the article advises us that synthetic rubber graining rolls can be obtained from Rapid Roller Corp., 2558 S. Federal, Chicago, Ill. We are not sure about the chrome surfaced copper graining plates, but you might try American Richwood Products Co., 104 E. Mason St., Milwaukee 2, Wisc.—ED.

Pencil Spray Gun

In the May 1948 issue of INDUSTRIAL FINISHING we are interested in the illustration which shows the use of a pencil spray gun to spray fish lures, see page 58. We are interested in obtaining a pencil spray gun of this type for our use in the aircraft industry. Please advise if it is possible to buy a pencil spray gun from Helin Tackle Co. of Detroit, or another source.—T. T. Co.

Try one of the manufacturers of spray guns that you see advertising in this magazine.—ED.

Who Supplies Alcotone?

We are writing in regard to a product called "Alcotone", which is used as a paint stripper. Could you give us names of firms that can supply Alcotone?—L. Co.

In our directory we find that a lacquer and celluloid solvent called "Alcontone" is manufactured and sold by Commercial Solvents Corp. of Terre Haute, Ind. Perhaps this is the material you have in mind. It might serve as a paint remover. In a letter we are adding the names and addresses of several manufacturers of paint strippers.—ED.

Pre-Cut Circular Masks

In June issue, "Letters from Readers", page 88, we notice an inquiry for "Pre-cut Circular Masks". Since we manufacture an item that seems to be exactly what the G. M. Co. is looking for, we wonder if you would be kind enough to advise us who they are and where they are located, so that we may contact them. —Panoco, 505 Carroll St., Brooklyn 15, N. Y.

Yes, this came from Glenn L. Martin Co., Baltimore 3, Md.—ED.

Interested in "Tremflex"

On page 124 of July issue we notice a short article entitled, "Rusted Metal, Acid, Steam", in which is mentioned "Tremflex, a special coating intended to dispose of rust conditions". The credit line at the bottom of the story is "Tremco Maintenance Experience". Will you please tell us who is the manufacturer of this product and if possible obtain literature for us?—B. M. Co.

The coating "Tremflex" is a product of Tremco Mfg. Co., 8701 Kinsman Rd., Cleveland 4, Ohio.—ED.

S-Y

INDUSTRIAL PIGMENTED WIPING STAINS

—for clarity of tone
—they clear up the grain
—and uniform easily
—bring out the true beauty of the wood.

Lacquer-proof. Will not bleed.

Will not raise the grain.

We will match any color tone.

Prompt and skillful service — technically correct.

Phone—write—or wire.

STILLE-YOUNG

Manufacturers - LACQUERS - FILLERS
STAINS-ENAMELS-PAINTS-*Chicago 14*

Tailor-Made—Our long list of standard items may contain **exactly** what you require. But if not, we'll formulate it for **your special process.**

Cleaning and Painting Poster Frames

We have several thousand metal poster frames (open like narrow picture frames) 22¼ x 28¾-in. (1⅛-in. face) to paint and would like to know the most economical method of doing the job. The frames are constructed of fairly light-gauge metal with open corners and three ⅛-in. weep holes across the narrow width bottom. Frames have a light film of oil and a few burn marks from spot welding. —T. & M. Co.

First the metal surfaces must be absolutely clean. The film of oil must be removed either with an alkali cleaner followed by two hot water rinses and then dried, or in a vapor degreaser. Choice of the cleaning agent and the method to be used depends upon the type of oil and the amount of oil on the surface—and the expected volume of production. A thin film of oil can generally be removed with an alkali type of cleaner compound. Call in the local representative of a reputable manufacturer of metal cleaning compounds. He will look over your problem at close range and recommend something practical and economical.

If the present quantity of frames is all there will be, you can apply the cleaning compound by dipping. On the other hand, if these frames are to be in continuous production, it might pay you to install a conveyor setup wherein frames are carried through a washer, dry-off oven (for cleaning); then through a paint dipping tank, over drain pans and perhaps over detearing grids, and finally through a bake oven.

Whichever method you elect to follow, the fundamental principles are the same. The metal surfaces must be clean, dry and free of scale or rust.

The paint or enamel you use must be suitable for dipping and it must be maintained at the correct viscosity. This is extremely important to obtain good results.

Several frames may be suspended on a rack, either by hanging them from one corner, or by a wire hook inserted in one of the ⅛-in. weep holes. In either case, to obtain good drainage, one corner of the frame should be the lowest point.

In dipping any product, the speed at which it enters the dip tank doesn't matter much, but correct speed of withdrawal is very important to obtain complete coverage and still avoid an excessively heavy coat which would result in runs. A simple rule to follow is, the speed of withdrawal (vertical rise) should equal the rate of flow of the liquid paint material off the surfaces of the product.

If conveyorized dipping is used, the viscosity of the material should be tested frequently during the day and, if they are needed, solvents should be added to replace any loss through evaporation. If hand dipping is used, a reasonable loss of solvents by evaporation may be compensated for by slower withdrawal of the product from the paint material.

If you use a suitable formulation of dipping material at the correct viscosity specified by your paint sup-

High Solids

CUT PRODUCTION COSTS ONE-THIRD

PROT-O-CEL*

A CELLULOSIC FINISH
MADE FROM NATURAL PROTEINS

Suppose you are using three finishing coats to finish one of your products. With PROT-O-CEL you will get the same finish in two coats due to the high solids content. Cut your production costs one-third.

PROT-O-CEL has a 40% or more solids content... 1½ times that of any cold sprayed lacquer. *No preheating required.*

The high solids content of PROT-O-CEL results in a saving of time, labor, and material. Fewer applications of PROT-O-CEL are required as compared to lacquers. It dries as fast as a lacquer... touch-dry in 7 minutes.

Find out how PROT-O-CEL can reduce finishing costs in your plant while maintaining or improving your present quality. Write us today to send you, on memorandum invoice, one 5-gallon can of PROT-O-CEL AR-100 and PROT-O-CEL REDUCER XX-100 at the drum price.

*Reg. U. S. Pat. Off.

Manufactured by

ARNY CHEMICAL CORPORATION

ARNO TONE

INDUSTRIAL DIVISION

55 WEST 42nd STREET NEW YORK 18, N. Y.

plier; if you position the frames to obtain proper drainage as they come up from total immersion in the paint; and finally, if you find out and use the correct speed of withdrawal, you will not have any runs or fat edges, and in all probability the final drop of paint which clings to the lowest open corner of the frame will not be too objectionable. If this is undesirable, the drop may be removed with a hand brush.

If you use an air-drying paint you will need enough racks to accommodate one day's production. If you use force drying or baking, the number of racks may be reduced to the number used in one finishing cycle.—P. C.

Galvannealed Steel Sheets

We have had some controversy in our plant in regard to using Galvannealed sheets without first cleaning them, the same as galvanized sheets are cleaned. It is my understanding that Galvannealed sheets differ entirely from galvanized and that Galvannealed is merely a trade name for a bonderized sheet, and that it has a phosphate coating over the zinc flash sheet and is in condition for painting as it leaves the mill. Will you kindly advise as to whether or not this is correct.—F. A. C.

Galvannealed sheets of steel are really galvanized (hot zinc coated) and then immediately heat treated at a controlled high temperature to: 1) greatly strengthen the bond between steel and zinc, 2) toughen the surface metal so it will successfully withstand sharp bending, and 3) produce a matte surface to which paints, varnishes, lacquers and other coatings will adhere firmly and permanently.

Reason for coating sheet steel with zinc is because the zinc coating really resists rust. However, the ordinary hot-dip zinc coating (ordinary galvanizing) results in the formation of bright spangles and a "greasy" slickness to which paints will not adhere until after the galvanized sheets have been weathered for several months or have been lightly etched by treatment with some suitable acid solution or recommended compound.

Compared with the slick, greasy surface of spangled sheets, Galvannealed steel sheets possess a microscopic "key" or "tooth" which affords an excellent foundation for paints, lacquers and synthetic enamels—because of the greater area and mechanical interlocking of the applied finish with the surface. *No treatment, either mechanical or chemical (other than the necessary cleaning) is needed to prepare Galvannealed sheets for finishing or painting.*

The Galvannealed treatment is a patented process which has been in use for several years. Galvannealed sheet steel is being produced now in the plant of Continental Steel Corp., Kokomo, Ind.—ED.

Heating Shop in Which Exhaust Fan Operates

We are confronted with the problem of getting the proper heat into our plant when our exhaust system is in operation. We are wondering if you could supply us with the name of a manufacturer who makes units that are attached to a window, that would preheat the air coming into our factory?—L.I.Co.

To install a heat unit in or near the window would be a fire hazard, and I do not believe a fire or insurance inspector in any state would agree to anything of that nature.

The number of cubic feet of air taken out of the room by the spray booth exhaust system or dip exhaust,

Above pictured items were processed of Claremont flock by Gilttedge Finishing Corp. 15 West 24th St. New York City

CANDY BOX-TOP LABELS...

another industrial finishing function of

Claremont FLOCK

For sound-proofing and insulation requirements or as a protective finish on industrial products, Claremont Flock (cotton, rayon, wool) is quickly and economically applied to any shape or surface. 18 assorted shades and brilliant colors. Samples available upon request.

Printers and processors in increasing numbers are applying colorful Flock patterns to adhesive-stenciled box-top papers. The effect creates a third dimension to flat surfaces and a package allure that is being reflected in greater sales. Check this new medium with your boxmaker, paper merchant or flock processor. Or for detailed flock information, write us direct—today!

CLAREMONT
The Country's Largest Manufacturer of Flock

WASTE MFG. CO.
CLAREMONT
NEW HAMPSHIRE

must be figured when installing a heating plant. If the spray department is located in a section of the plant which does not permit changes in the plant heating system, I suggest that a forced hot air system be installed in a separate building and transferred to the spray or dip department through metal ducts.

If the spray department is located in the open shop, it is advisable to extend the side panels and top panels enough to permit the front of the booth to be enclosed with spun glass filters which, in turn, are supplied with temperature controlled air, through ducts from the previously mentioned building.

This method would take care of the spray booth or dip exhaust and be independent of the shop or factory heating system. The filtered and temperature-controlled air will reduce rejects, and overcome high humidity which may cause blushing. For the correct air supply it is advisable to contact a company or individual in your locality who thoroughly understands all phases of spray application. —W. BEACHAM.

Descaling Steel Plates at Mill

INSTALLATION of what is believed to be the largest, most modern, and most complete sodium hydride descaling plant in the world is announced by Lukens Steel Co., Coatesville, Pa. The equipment can be used on all Lukens Clad Steels, (Nickel-Clad, Stainless-Clad, Inconel-Clad and Monel-Clad) on alloy steels and on all metals that are not affected by molten caustic or by heating at 700° F., for the removal of metallic oxide scale and to impart an attractive pearly gray matte finish to plate surfaces.

More uniformly descaled surfaces, and shorter descaling time are the principal advantages offered by the sodium hydride process over blast cleaning. Metallic oxide scale is removed by first immersing the work in the sodium hydride bath and then im-

A large plate of Lukens Clad Steel being lowered into the sodium hydride bath, in the new descaling equipment installed at Lukens Steel Co. The Clad Steel plate has been preheated in the furnace to left.

P-B builds ALL types of conveyors

WE HAVE in the past stressed the savings made by P-B Finishing Room Conveyors because, as a group, they accounted for a major portion of the economies effected in the manufacture of furniture.

But Palmer-Bee also builds cabinet, rubbing, machine and glue room conveyors, as well as warehouse and shipping conveyors and return feeders for glue jointers. They, too, count in increasing plant capacity, saving time and reducing costs.

1. Transferring frames from overhead to floor-type conveyor.
2. Cabinet room conveyor.
3. Rubbing room conveyor.
4. Packing room conveyor.

PALMER **BEE** COMPANY

DETROIT 12, MICHIGAN

mersing it, while hot, in a water quench tank. The scale, loosened by the sodium hydride bath, is carried off the work by steam which is created when the heated work is immersed in the water quench. The reaction stops when the reducing action on the scale is finished; overtreatment has no effect on the underlying metal.

The sodium hydride bath may be likened to an alkaline pickling bath which requires no electric current. In the course of removing scale, which is accomplished without contaminating the bath, the caustic soda results from the reaction of sodium hydride and metallic oxide.

The work remains in the sodium hydride solution from 8 to 20 minutes. Then it is quenched in the adjacent water tank, where the steam which is generated helps remove the loosened scale from the surface.

As a preliminary to pickling, the work is immersed in a sulfuric acid bath to neutralize any remaining caustic and is then brightened by dipping in a nitric-hydrofluoric acid bath. Following these pickling operations, the work is subjected to a holding bath in water, then to a high pressure spray to remove all acid. The final bath is a hot water rinse, resulting in a clean, bright surface.

Paint, Varnish Research and Graduate Study at Case

Two fellowships have been established at Case Institute of Technology, as a result of gifts from the Paint & Varnish industries of Northern Ohio, to sponsor graduate study and research on organic protective coatings. The fellowships are open to applicants who satisfy the requirements for admission to the Graduate Division in the fields of chemistry and chemical engineering.

For information regarding prerequisites, courses of study, and the fellowships, please write to the Head of the Department of Chemistry & Chemical Engineering, Case Institute of Technology, Cleveland 6, Ohio.

N. E. Dabolt Retires From Atlas

After 29 years of active service, Newton E. Dabolt retired from the Atlas Powder Co. as Sales Manager for the New York City office of Industrial finishes. He first came with the company in 1914 as a lacquer salesman in the metropolitan area, after being with another company as a chemist.

L. R. Lindsey, Service Engineer

Leonard R. Lindsey has been appointed Service Engineer for the Metal Industries Department of the Diversey Corp., 53 W. Jackson Blvd., Chicago 4, Ill. Lindsey will handle the sales and servicing of Diversey metal cleaning and surface preparation products in the Columbus-Dayton-Cincinnati area.

Howard G. Pankratz Joins the R. C. Mahon Co.

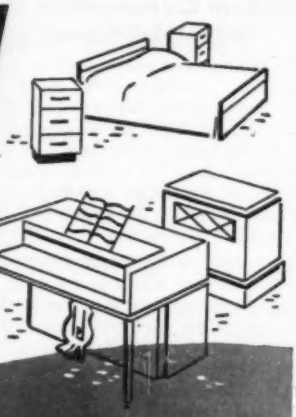
The R. C. Mahon Co., Detroit, Mich., announces that Mr. Howard G. Pankratz, Industrial Engineer, has become affiliated with the company.

Mr. Pankratz is now a member of the sales-engineering-consultant staff of the Industrial Equipment Division of R. C. Mahon Co.—a Division specializing in planning, engineering, building and installing complete conveyorized finishing systems for the application of paint, lacquer and varnish. These complete finishing systems include metal cleaning and rust-proofing equipment, dry-off ovens, hydro-filter spray booths, filtered-air supply systems for pressurized spraying enclosures, drying and baking ovens, and paint reclamation systems.

H. G. Pankratz becomes member of R. C. Mahon engineering staff

Mr. Pankratz's broad industrial experience in the railroad, aircraft, automotive and household appliance finishing field is a valuable asset to The R. C. Mahon Co. sales force and to the firm's industrial engineering consultant staff. Mr. Pankratz is a graduate of M. I. T.

USE HIGH SOLIDS CLEAR LACQUERS *by* O'Neil Duro FOR



UNUSUAL WORKABILITY

●

LOW MILEAGE COST

●

EXCEPTIONAL COLD CHECK RESISTANCE

●

LASTING BEAUTY

●

Write for complete information and sample panel.

High Solids Clear Lacquers by O'Neil Duro have solved many a production problem. Furniture, desk, radio cabinet, piano manufacturers — ad infinitum — choose these lacquers for their workability — lower mileage cost for the same film thickness as compared with the best low solids lacquers. Many of these manufacturers use one coat because it does the work of two.

High Solids Clear Lacquers are obtainable in all degrees of sheen — high gloss — semi-gloss — rubbed effect — satin — flat. They can be formulated to fill the need of the job.

Manufacturers of Enamels and Lacquers for over 50 years.

SYN-POR DURO FINISH

O'NEIL DURO COMPANY

MILWAUKEE 7, WISCONSIN

Random Comment on the Industrial Scene

(Continued from page 8)

ment and bearing the word "fire" in red, is placed high above every piece of fire fighting equipment, to give immediate direction to this equipment regardless of materials on floors. This overhead marking contrasts well with the daylight wall color.

The safety yellow is used for painting all moving objects, such as lift hooks, conveyor baskets, trucks, tractors, and other mobile equipment for moving materials. Truck traffic lanes are bordered with 6-in. bands of safety yellow. Doors leading to hazardous areas are cross hatched with safety yellow. Master control switches, handles, and parts of machinery where safety is paramount, are painted in yellow.

* * *

Railroad Colors. A novel poll of public opinion to help determine the ultimate selection of colors for locomotives and railway passenger coaches is being taken by British railway executives. In describing the use of experimental colors in connection with the poll, the report says:

"Fourteen main line and cross country routes have been selected to give as many people as possible a sight of the new colors, and the public is invited to express its opinion directly to the railway executive where replies will be studied and summarized.

* * *

Treating Wood to prevent swelling when exposed to moisture has been perfected. Synthetic resins of the phenol-formaldehyde or urea-formaldehyde types provide the bulk in fiber cavities and pores to reduce both swelling and shrinkage. It has been found that treating wood with acetic anhydride will also reduce swelling and shrinkage by altering the basic molecular structure. Still another method involves the introduction of a water insoluble wax. Research is doing much to eliminate some of the basic faults of wood and still preserve its beauty and utility.

* * *

N. Y. Furniture Market. The N. Y. summer market, which closed on June 26, was marked by light buying. Attendance totaled 8017. Last June's attendance was 9000. Exceptional activity was centered on living room suites, occasional and novelty pieces, with emphasis on case goods. Most buying was done by the smaller stores.

Sectional living room furniture claimed a prominent place. Kroehler Mfg. Co. showed a completely new design of sofas and chairs. Prices were firm with no appreciable increase. Buying was cautious and light.

* * *

Lumite Plastic Mesh. Increasing its industrial uses, Lumite woven plastic screen material has been installed as a cabinet grille cloth by the Packard Mfg. Corp., makers of automatic commercial phonographs.

Lumite is used to cover the loud speaker compartment of the cabinets, in a honeycomb weave, as a decorative and serviceable grille material. One of its features is that it has been especially treated for less sound absorption which results in truer sound reproduction and tone transmission.

* * *

Amerwood, an entirely new pre-finished, low cost paneling that holds and enhances all the natural beauties of wood has been developed by Lehwood Corp., 1003 Ironwood Drive, South Bend, Ind. The patented Lehwood process transforms ordinary woods into durable Amerwood. The boards

AMAZING TAPE SOLVES PROBLEM FOR SHIPPERS OF ENAMELED GOODS

Hold movable parts firmly in place during shipment with a special new cloth tape that *pulls off clean* and *leaves absolutely no stain* or discoloration! Bauer & Black Industrial Adhesive Tape No. 158 was specially designed to meet the need, among shippers of enameled goods, for a strong, non-staining binding tape. Here are the main advantages of Tape No. 158:

TENSILE STRENGTH: 46 lbs. per in. of width.

PULLS OFF CLEAN, with no messy residue.

Retains this quality at high temperatures—up to 180° F.!

ABSOLUTELY NON-STAINING, non-discoloring. Safely used on many white and pastel finishes (alkyd, urea and nitrocellulose lacquers). In photo above,* workman is applying Tape 158 to Kitchen-Kraft wall cabinet doors finished with Dupont Dulux baked-on enamel.

WRITE US for **FREE** test samples. Inquiries welcome. No obligation. Address Dept. 6-8, 2500 S. Dearborn St., Chicago 16.

*Courtesy of the Midwest Mfg. Co., Galesburg, Ill.—one of the largest manufacturers of steel kitchens

A product of

BAUER & BLACK

Division of The Kendall Company, 2500 S. Dearborn St., Chicago 16

Industrial Adhesive Tape

PRESSURE SENSITIVE

Production Short Cuts to Reduce Costs • Research to Speed and Improve Methods

are first processed to remove a portion of the Spring growth and increase surface tension of the hard Summer growth. They are then sanded, dry pigment is applied, and finally a clear protective coating is followed by a wax and buff to a final silken smoothness. The result is a beautiful prefinished paneling ready for installation.

* * *

A New Awning Fabric of fused glass fibers is coated with Vinylite resins to make it resistant to fire, mildew, weather. The new material is available in ten stable, non-fading, new colors. Because it is non-absorptive, this fabric will not wilt or stain. Grease, soot or dirt can be removed easily with soap and water, restoring the fabric to its original beauty, even after long use and exposure. This new fabric has exceptional strength and is also applicable for many other canvas-type applications.

* * *

Furniture In '48. According to a survey recently released by Seidman & Seidman, accountants for furniture manufacturers, the volume of household furniture (made of wood) for the first six months of this year is running at the rate of $1¾-billion annually based on factory prices. The 1947 volume reached nearly $1½-billion, which figure represented a gain of 30% over 1946.

"The extent to which furniture output has risen can best be realized when it is considered that the top volume reached by industry in the immediate post-war period in 1941 was some $660-million" says the survey. Of course part of this increase can be credited to inflated prices, but there is no question that the industry is producing more furniture than ever before in its history.

Strathmore Products, Inc., Buys Unifilm Paint Co.

Strathmore Products, Inc., 1970 W. Fayette St., Syracuse, N. Y., has purchased Unifilm Paint Co., 100 Cornell Blvd., Somerville, N. J. The purchase was made to expand Strathmore's facilities for serving Metropolitan New York, New Jersey and adjacent states with its complete line of fine industrial and automotive finishes. Manufacturing and storage activities will be carried on at both locations.

TO FOREMEN FINISHERS: Management's appraisal of your value to the company, as a key man responsible for results in the finishing room, is sure to come up for attention sooner or later. For instance, one company recently became aware of the following added accomplishments on the part of its foreman finisher.

1) He had discovered that workmen were failing to get the last two or three quarts of lacquer from every drum, and he had remedied this practice.

2) He had found a way to save and utilize the solvents used for cleaning spray guns, tanks, etc., and had put his discovery into effect.

3) He had found out a way to cut down the number of rejects that had to be repaired or refinished before the goods could be sold.

4) He had worked out the new color scheme which the company displayed at the Market, and which had sold so well.

5) He had increased production in his department without sacrificing quality. This in turn, had resulted in lowered finishing costs per unit.

After all, business exists to make a profit, and at the same time to be a good influence in the community. Since this foreman had contributed to his company's smooth operation, financial success and goodwill, he became a more valued asset to the organization—and he was rewarded accordingly.—R. W.

NEW PERIOD
Production Finishes
BAKING ENAMELS
LACQUERS SHELLAC
ENAMELS FILLERS
SEALERS SUPPLIES
PRIMERS STAINS
SYNTHETICS VARNISHES
Your Best Salesman, at the Point of Sale, Is An Attractive, Durable Finish
New Period chemists constantly work to build better finishes . . . faster schedules . . . at less cost.
SEALERS—Provides excellent body, dries fast and sands easily.
LACQUERS—CLEAR & SEMI-GLOSS. Uniform and dependable—Suitable for coating almost any surface—Provides more coverage and unusual mileage. Cuts costs.
LACQUER ENAMELS—FLAT & GLOSS. Available in a wide variety of matched colors and shades. Widely used by leading manufacturers.
SYNTHETIC ENAMELS—A durable and trouble-free finish for fast production. Built to meet the most exacting production schedules.
FILLERS and STAINS—New Period has long been famous for its Fillers and Stains. Specially formulated for mass production use. Unequalled color-matching service.
Remember New Period Finishes for Quality and Service
MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES
NEW PERIOD
Production Finishes
NEW YORK WOODFINISHERS' Supply Co.

Furniture Conveyor for Finishing Departments

The DeBurgh conveyor, offered by George Koch Sons, Inc., Evansville, Ind., is a new floor-supported system specially designed for furniture manufacturers. All lifting or pushing of heavy pieces is entirely eliminated through the use of this conveyor. Furniture pieces rest on individual pallets which are moved on short side rollers by means of a center drive. Each pallet can be easily rotated like a turntable, to give the worker easy access to all sides and the top of each piece of furniture.

Each piece of furniture is supported on a pallet (which can be turned like a turntable) as it is moved along over rollers by the center drive of a power conveyor. This floor-supported conveyor carries furniture through all work stations and drying areas.

Although this DeBurgh conveyor is designed to operate on a timed cycle, giving perfect production control, it is flexible enough to permit any work to be done without interrupting the continuous flow of pieces. For instance, any piece may be temporarily taken off the line for striping, decorating or some other special finishing operation.

One feature of the conveyor is its ability to "close-pack" pallets in the flow-out, drying, and cooling areas. This actually reduces, by about one-third, the conveyor speed in these areas and makes for efficient utilization of the floor space.

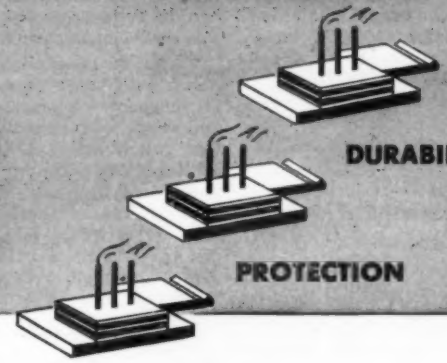
Inspection, sanding, putty work, spraying, wiping, drying, (including varnish coats), striping, decorating, shading, glazing, rubbing, attaching hardware, wrapping, touch-up-work and packing—all can be done on the conveyor line.

Thick Plastic Coating That Resists Acid Solutions

Enthone, Inc., 442 Elm St., Dept. IF, New Haven, Conn., announces a new liquid plastic plating rack coating called "Enthonite 101." This material is supplied as a viscous liquid containing 100% solids. It can be applied by dipping to produce coatings varying from ⅛ to ¼-in. The material is applied over a primer coat and is baked at temperatures of 350° F. or higher for a short period of time.

There are no solvents to evaporate and all drippings can be reclaimed and reused. The coatings produced are glossy, tough and resilient, and will not chip, even on rough abuse of the

Industrial YARNALL Finishes



For Sixty-Three Years...

YARNALL has consistently pioneered new Industrial Finishes . . . worked with manufacturers, experimenting, developing and improving finishes for metal, wood, and plastic. If you have a tough finishing problem chances are YARNALL can help.

DIPPING AND SPRAYING ALUMINUM
FLOCK ADHESIVE UNDERCOAT
WOOD AND METAL PRIMERS
YARLAST EXTERIOR ENAMEL
YARLITE BAKING ENAMEL
YARBRITE TOY ENAMEL
EMBOSSING FINISHES
LUMINOUS FINISHES
WRINKLECAST
HAMMERCAST

1885 1948

YARNALL PAINT COMPANY
Industrial Division
PHILADELPHIA
PENNSYLVANIA

plating rack. They have high resistance to all types of inorganic solutions, particularly plating solutions.

Repair of the damaged coatings is easily done by the use of a patching cement and an infra-red heat lamp. Due to its great resistance to attack by inorganic chemicals, Enthonite is being used and is recommended for the coating of tanks, plating work holders, and acid-dipping baskets.

New Fire-Resistant Paint

A new fire-resistant paint is announced by F. R. P. Corp., 1024 S. Wabash Ave., Chicago 5, Ill. It should reduce fire hazards in homes and factories by 50%. Called Fyre-Retardant paint (F. R. P.) this product is the culmination of many years of continuous experimenting and the direct result of a sensational chemical discovery.

Remarkably resistant to hot flame.

Inflammable materials painted with F. R. P. become practically fireproof. Woodwork in the home, office, on the farm or in manufacturing plants may now be fully protected against fire by this marvelous coating.

F. R. P. is applied like ordinary paint, with brush or spray. One coat is sufficient. It comes ready mixed and ready for immediate application. One gallon will cover 500-sq.ft. It is available in exterior and interior gloss, and interior flat. The gloss spreads into a beautiful, even, Lustrous surface that takes a high polish. Its fire retardant qualities are actually augmented with age. F. R. P. has an oil base.

Silicated Traffic-Marking Paint

A silicated traffic-marking paint, many times as durable and resistant to continual cleaning as ordinary traffic paint, designed for industrial marking off of safety, storage, and traffic areas and having the additional safety feature of being non-slippery, is being manufactured by The Wilbur & Williams Co., Greenleaf and Leon Sts., Boston 15, Mass.

New Phosphatizing Method

The Neilson Chemical Co., 6562 Benson St., Detroit 7, Mich., announces a new product, Prep'N'Cote, designed for cleaning, preparing and phosphatizing ferrous metal surfaces and aluminum alloy surfaces to provide greater paint durability.

In comparison to ordinary non-phosphatizing cleaning methods, the Prep'N'Cote process shows beneficial results. Panels cleaned with ordinary non-phosphatizing methods failed under salt spray in less than 72 hours, whereas panels finished with the same paint but which had been treated

FASTER FINISHING AT LESS COST

PUMP AND SPRAY FROM THE ORIGINAL CONTAINERS

1. Air-operated *Versatal* Pumps dispense materials directly from original drums . . . serve up to 6 spray heads.

2. Hydraulic pressures deliver materials through as much as 1000 feet of hose.

3. *Versatal* eliminates "time-out" for material handling and transferring . . . increases output per man hour.

For complete details write Alemite, 1814 Diversey Pkwy., Chicago 14, Ill.

ALEMITE *Versatal*

Another Product of Stewart-Warner

with the Prep'N'Cote phosphatizing process before painting averaged better than 500 hours under salt spray fog tests. Similar comparative results also are obtained under humidity cabinet tests.

The Prep'N'Cote process likewise shows a marked improvement when tested for paint durability under impact or mandrel tests, wherein Prep'N'Cote painted surfaces show greater paint adhesion than that obtained when using ordinary non-phosphatizing cleaning methods.

The phosphate coating provided by the Prep'N'Cote phosphatizing system offers protection against rusting and corrosion; provides thorough cleaning of oils and greases from the metal surfaces, and gives excellent paint adhesion and paint durability to surfaces which have been Prep'N'Cote treated.

Valdura M & F Enamel

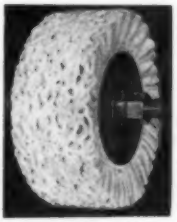
Valdura M & F Enamel—containing a mold and mildew inhibitor—is a long-life synthetic enamel particularly suited for rough use on factory floors and aisles subjected to the constant scuffing of feet. It dries in six hours to a high gloss, hard finish that is extremely flexible. Because M & F Enamel stands up under a wide range of temperature and moisture, it is excellent for piping indentification, too.

Designed for use on any wood, metal or concrete surface, the enameled surface can be washed and cleaned repeatedly. It resists acids, alkali, oil, moisture, chemical fumes, rays of the sun, and stands up to a heat of 300° F.

M & F Enamel comes in 18 brilliant colors, as well as white and clear. It is a product of American-Marietta Co., 43 E. Ohio St., Chicago 11, Ill.

Contact Wheel for Belt Polishing

A new Airway Ventilated Contact Wheel for abrasive belt polishing is announced by the Jackson Buff Corp., Long Island City, N. Y. This new contact wheel has been designed for contour or flat work on stainless or carbon steel stampings, aluminum, brass die-castings and forgings. The wheel offers maximum resilience, yielding readily to pressure, and springing back into shape quickly for the next pass.



The ventilation feature of these wheels makes them ideal for all plants where high speed contour polishing of metals, plastics or wood is important.

The Jackson Airway Ventilated Contact Wheels are available in 6 to 16-in. diameters, in standard sections of ½-in. face. Width of wheel face can be changed to suit each job.

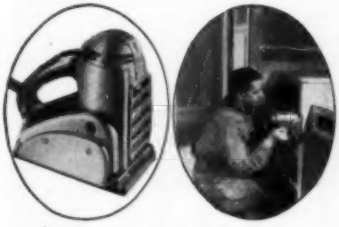
A folder, describing in greater detail the merits of contact wheels, is available to all interested persons.

Pre-Treatment of Aluminum Before Painting

D. C. Cooper Co., 1469 S. Michigan Ave., Chicago 5, Ill., announces the development of a new product which is known as "D. C. Aluminum Etch", for conditioning aluminum surfaces so that paint will adhere. This product is in liquid form, and is used cold, diluted 50/50 with water.

The aluminum parts can be immersed in this solution from five to 30 seconds, then rinsed, and the parts are ready for painting.

Where the aluminum surfaces are



SANDS, COARSE OR FINE, RUBS AND POLISHES

STERLING 1000 SANDER

PORTABLE ELECTRIC

. . . up to $30.00 per week per man if you sand by hand

Fast, economical sanding—smooth, uniform surfaces—that's what you get with a Sterling Portable Electric Sander! Use it for either occasional or continuous heavy production, maintenance and repair work. Use it on furniture, displays, boats, refrigerators, cabinets—yes, for sanding, rubbing or polishing *your* product!

The Sterling is vibrationless, lightweight, easy to operate on flat or curved surfaces. Your distributor will demonstrate it in your shop—ask him now.

Write for illustrated folder!

STERLING TOOL PRODUCTS CO.

1234-M Milwaukee Avenue, Chicago 22, Illinois

not adaptable for immersing, D. C. Aluminum Etch can be applied with a brush. The surface is etched slightly by this process, making an excellent bond for paints and lacquer. This pre-treatment of aluminum before painting prevents chipping or peeling of the paint or lacquer applied to it—provided other conditions are in accordance with good practice.

"Traffic-Tred" Floor Paint

To help reduce the most common industrial accidents—slips and falls resulting from hazardous footing—a new safety floor finish, "Traffic-Tred", is announced by the Industrial Safety Products Division of The Watson-Standard Co., 225 Galveston Ave., Pittsburgh 30, Penn.

"Traffic-Tred" is an abrasive floor coating which is applied like paint. It dries to hard, rough surface with a texture much like coarse sandpaper. It works equally well on steel, wood or concrete, removing most of the danger from walking areas subject to dampness, greasiness and othe slippery conditions.

New Acid-Proof Brush for Applying Acids

The brush announced by The Eraser Co., Inc., Syracuse 2, N. Y., is made with a soft tuft of "FybRglass" solidly imbededd in a wood handle of conventional shape. When wet, the FybRglass becomes soft and pliable in the same manner as ordinary brushes. The brush may be used in any acid that does not affect glass—nitric acid, soldering fluxes, chromic acid, chloride of iron, etc.

Brushes most acid solutions safely.

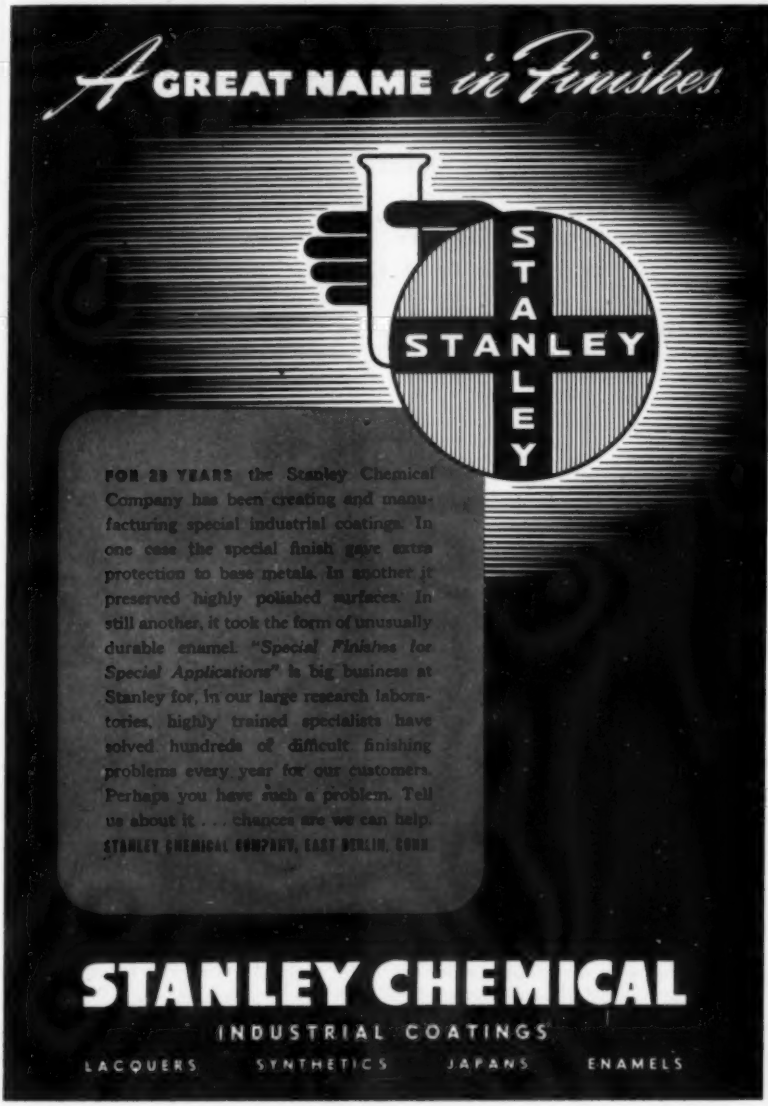
Any manufacturer using acids for cleaning purposes may secure a brush on a trial basis. The acid brush illustrated here measures 3-in. in width, ⅜-in. in thickness and has bristles extending 2½-in. from the handle. Other sizes of acid-proof brushes are available to meet special requirements.

Prot-O-Cel, Synthetic Varnish for Fine Furniture

Manufacturers of fine furniture and cabinet work will be interested in a new synthetic varnish known as Prot-O-Cell, developed by Arny Chemical Corp., 55 W. 42nd St., New York, N. Y. This rapid-drying, high-solids wood finish is designed to eliminate many of the usual operations required in finishing. The manufacturer reports that great savings in time, labor and material are possible.

Recent tests made by a recognized testing laboratory established that Prot-O-Cell dries as fast as a lacquer, but has a 50% higher solids content. It has the high base of a varnish, levels off readily and uniformly, displays fullness, good coverage, and great adhesion. Spot immersion tests revealed that the finish is not affected by boiling water, cold water, alcohol, acids, and acetone (nail polish remover). High cold-check resistance, great resistance to blushing and impact and a high flash point, were also established.

Prot-O-Cell can be applied by either brush or spray. It sands and rubs easily, and eliminates entirely the use


A GREAT NAME in Finishes
STANLEY
STANLEY
FOR 28 YEARS the Stanley Chemical Company has been creating and manufacturing special industrial coatings. In one case the special finish gave extra protection to base metals. In another it preserved highly polished surfaces. In still another, it took the form of unusually durable enamel. "Special Finishes for Special Applications" is big business at Stanley for, in our large research laboratories, highly trained specialists have solved hundreds of difficult finishing problems every year for our customers. Perhaps you have such a problem. Tell us about it . . . chances are we can help.
STANLEY CHEMICAL COMPANY, EAST BERLIN, CONN.
STANLEY CHEMICAL
INDUSTRIAL COATINGS
LACQUERS SYNTHETICS JAPANS ENAMELS

of sanding sealers. Higher solids provide quick build-up; and fewer coats are required to produce a hard, durable, mar-resistant finish.

A special reducer, Prot-O-Cell XX-100, is the only effective reducing agent which does not alter the solids content of the synthetic varnish itself.

New Safeguard for Gas Burners

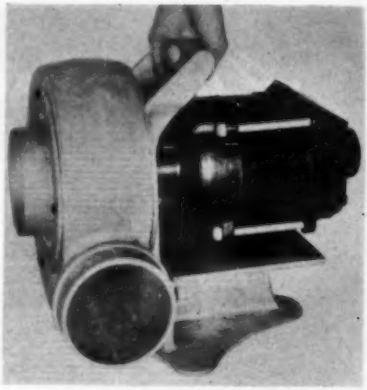
Combustion Control Corp., 77 Broadway, Cambridge 42, Mass., introduces Fireye System FF-6, providing electronic flame failure protection and semi-automatic ignition control for all types of commercial and industrial gas burning equipment, as well as for oil-fired equipment having continuous gas pilot ignition. It is recommended for use on boilers, ovens, furnaces, kilns and dryers.

A flame rod is mounted near the gas pilot on the burner plate and projects into the fire chamber. The rod is so located that its tip impinges on the pilot or main gas flame. The rod is wired to the control which may be located at any convenient point, such as on the burner panel board.

The flame rod actually "feels" the gas flame—maintains a constant vigil day and night against the ever-present danger of flame failure. When flame fails, the flame rod signals this condition to the control which instantly cuts off fuel and can be wired to sound an alarm.

Safety Ventilator Fan

A new light-weight but powerful aluminum portable safety ventilator is now being made available for industry by United Electric Motor Co., 178 Centre St., New York 13, N. Y. Called "Saf-T-Air", it has a capacity of 425-cu.ft. per minute, yet it weighs only 50-lbs.



One man can easily carry it.

"Saf-T-Air" can be used either as a blower or exhauster. It is excellent for removing hazardous gases, fumes, vapors, dust and foul-air from drums, vats, tanks, tank-cars, boilers, sewers, manholes, shipholds and other inaccessible places. It is highly efficient on welding, spray painting, tank coating and cargo unloading jobs.

Industrial Marking Inks

Nehi Protective Coatings, Inc., Ink Division, 340 W. Hoffman Ave., Lindenhurst, N. Y., announces two complete lines of fast drying marking inks for machine or manual marking on any surface, including asphalt or creosoted surfaces.

The machine marking inks are available in a wide range of colors. These have been developed especially for automatic, semi-automatic and manual marking devices, using rubber or steel type. Ink may be fed to the type by felt or metal rollers, or both.

Nehi manual marking inks are available in a wide range of colors for free hand marking, stenciling or

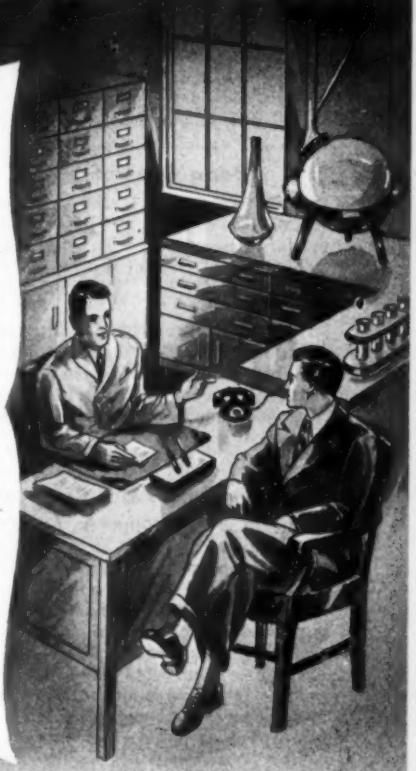
The RIGHT Finish
CUTS Production Cost
IMPROVES the Product

Over a period of many years we have been called upon to solve all kinds of finishing problems—some really tough ones.

Our files contain many case histories and much valuable and important data on finishes and methods of application.

The answer to your finishing problem may be right here. If not our expert staff of technicians with the finest modern laboratory equipment is ready to serve you.

We invite you to submit your finishing problem to us.



Randolph

PRODUCTS COMPANY

Carlstadt, New Jersey

DOPES • LACQUERS • ENAMELS

spraying. They may be used with marking brush, stencil brush or spray gun. Can also be thinned to use with pen point for fine markings.

Both marking inks are fast drying, and can be regulated to suit marking conditions and production schedules. They are waterproof, weather proof, fade resisting, oil, solvent, acid and alkali resisting, and are made to stand severe handling.

Odor Control Set

A new approach to the problem of controlling odors of manufactured products is provided by the Maskol Odor Control Set announced by Cargille Scientific Inc., 118 Liberty St., New York 6, N. Y.

The set contains 1-oz. quantities of 12 different odor-masking agents that are now used successfully in numerous industries to increase the marketability of products having unattractive ordors.

Heavy Duty Paint Remover

Zip-Off Paint Remover No. R-203 is a new development in solvent-type paint removers. It quickly lifts or softens old, dried accumulations of synthetic or oleo-resinous enamels, varnishes and lacquers. Due to its action, this paint remover is effective even on relatively thick coats of paint. It is excellent for cleaning spray booths. As normally used this remover does not corrode metals.

The consistency of Zip-Off No. R-203 permits easy brush application to vertical and overhead surfaces without dripping or sagging. Evaporation-retardants allow it to stay wet long enough to penetrate thick paint films, therefore one application is generally sufficient to clean average spray booth walls. It is a product of Protective Treatments, Inc., 419 S. Montgomery St., Dayton 10, Ohio.

Strip-Kwik Paint Remover

Skip-Kwik, a new non-flammable paint remover is now ready for the market, according to the manufacturer, Leon Finch, Ltd., 728 E. 59th St., Los Angeles, Calif.

Available to the industrial finishing trade in gallon, five-gallon and drum containers, the positive-action remover is designed to reduce greatly the operational fire hazard usually present with conventional solvent removers.

On-the-job tests conducted by the manufacturer show that it removes stubborn films of baked enamel, varnish, synthetic enamels and paints very quickly and thoroughly. Chemical neutralization is not necessary when this remover is used. Metal surfaces from which the finish has been stripped away may be refinished immediately after rag-wiping, steam or hot water flushing.

The remover will not raise wood grain, raise veneer, or affect aluminum, copper, iron, brass and their alloys during the removal period. When used as directed, no unusual health hazards will be encountered, says the manufacturer.

Stainless Alloy Plated Without Electricity

Lustraloy, a new material in the plated metals field which permits you to secure uniform nickel plating *without the use of electric current*, has been made available to industry by the Lustraloy Sales Corp., 10 E. 52nd St., New York 22, N. Y.

Without current and expensive related equipment necessary to electrodisposition, Lustraloy leaves a bright high quality finish that is tarnish proof and corrosion proof. It may be applied to any base metal with excellent bond. Lustraloy has been suc-

You can produce on any material the following surface finishes:

FELT - SUEDE LEATHER - MOHAIR VELOUR - VELVET - CARPET

FUNCTIONAL USES

Used in the auto, airplane, radio, electrical, phonograph, ceramics, furniture and many other industries for surfacing all sorts of materials to provide

TEMPERATURE INSULATION • SOUND DEADENING • INTEGRAL GASKETS • SHOCK ABSORBING SURFACE • NON-MAR SURFACE • NON-GLARE SURFACE

DECORATIVE USES

Applied in various lengths and colors to wood, paper, cloth, metal, etc., the following effects are produced—

FURNITURE UPHOLSTERY • SUEDE LEATHER • INTERIOR AND DRAPERY FABRICS • VELVET • VELOUR • MOHAIR • CARPET

with these patented and trademarked Rayco specialties:

FELT AND SUEDE SURFACE

*"Raymix"—a flock of rayon fibres, trademarked under U. S. Patent No. 427949 to produce a suede effect of utmost realism on any surface.

*"Kingcote"—a cotton flock trademarked under U. S. Patent No. 423572, producing a suede effect at minimum cost.

MOHAIR, VELOUR AND VELVET SURFACE

"Raycote"—a flock composed of uniformly cut rayon fibres to produce on any surface a pile effect such as velvet, plush, or velour. Made under U. S. Patent No. 2014947.

SYNTHETIC CARPET

"Harecote"—a flock composed of animal fibres, produces a durable carpet or rug material.

Request Free Color Card of Actual Samples

**Rayon Processing Co. of R. I., Inc.*

**Registered Trademark*

PIONEER PRODUCERS OF SURFACE COATING FLOCKS

55 Moshassuck Street **Pawtucket, R. I.**

POLLAK PAINT CO.
715 Main St.
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LAMBERT-NEW ENGLAND CO.
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Boston, Mass.

H. R. MEININGER CO.
409 16th St.
Denver, Colorado

J. GORDON SMITH CO.
3901 Main St.
Dallas, Texas

cessfully used on products where sharp corners must be plated without excess metal build-up or "beading", and where it is necessary to surface inner tubing walls with a small inside diameter. Results have shown exacting uniform thickness on all contours and recesses. This is almost impossible or impractical to attain with electroplating.

Through the use of heat treatment which is at relatively low temperature, and harmless to the Lustraloy finish or most base metals, Lustraloy may be hardened to as high as VPN 900 with unusual ductility. Hardness at this level equals that of most hard chromium plate, and wear resistance of Lustraloy has been found equally comparable. This treatment also provides inter-diffusion of Lustraloy with the base metal to form an indestructible bond, and at the same time shows any poorly bonded areas, by the formation of blisters, as a positive means for inspection.

This performance cannot be equalled by any other commercially available metal or alloy. As the most modern innovation in the plating field it will prove the answer to many engineering problems, particularly those calling for hard and wear resisting surfaces on stainless steel or nonferrous alloy parts.

New Synthetic Lacquer Gives Smooth Durable Finish

Development of a new synthetic type lacquer for wood products, such as high-grade furniture, radio and television cabinets, pianos and tables is announced by Monroe Sander Corp., 10-18 46th Ave., Long Island City 1, N. Y., manufacturer of industrial finishes.

This new lacquer not only produces a smooth glass-like surface (no "orange peel") which can be rubbed and polished easily and quickly. Fewer coats are necessary to obtain a full lustrous finish.

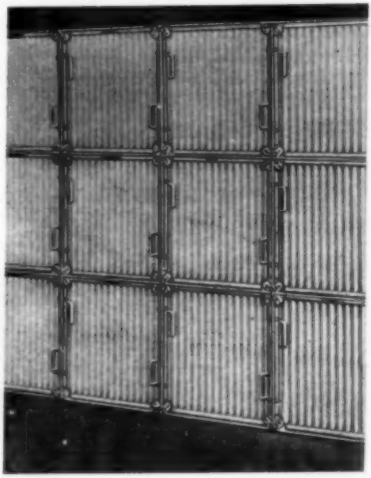
Tests show that this newly developed lacquer, which can also be produced to give a semi-gloss or flat finish, will not crack, another factor of extreme importance to the furniture, piano and radio industries.

After "Thermol Shock Tests" which subjected a test lacquered panel to heat of 125° F. for a half hour and immediately thereafter to a 5 below zero temperature for an hour—the tests being repeated 20 consecutive times—there was no sign of cracking in the finish.

Electronic Air Filter

An electronic air filter, the Electro-PL, has been developed by American Air Filter Co., Inc., Louisville, Ky.

The new filter is basically an electronic precipitator without an ionizing unit and contains a collector element



Straight bank arrangement of air filters.

£

STERLING

Complete Finishing Systems

Primers...Thinners
Clear and Synthetic Enamels
Ready-mixed Metallic Lacquers

3508 Market St. **STERLING LACQUER MFG. CO.** St. Louis 3, Mo.

★ ★ ★ 3 STAR SPECIALS

FOR THE WOODWORKING INDUSTRY

★ C-7046-L CLEAR SEMI-GLOSS WOOD LACQUER

Satin finish rubbed effect
Color—light; easy rubbing
Cold check resistance—excellent
High solids—25% plus
Non-settling; viscosity—medium
Blush resistance—good

★ C-2047-L CLEAR GLOSS WOOD LACQUER

Gloss—high; rubbing—easy
Cold check resistance—excellent
Blush resistance—good
Solids 25%; good standout
Color—light
Viscosity—medium

★ V-7032-L SANDING WOOD SEALER

High solids—25%
Color—light; fill—excellent
Cold check resistant
Easy, quick sanding
Standout unusual, non-settling
Viscosity—medium

These Items Sold Only in 55 Gallon Drums

Testing sample free—5 gallon trial order at drum price

ALLIED FINISHING SPECIALTIES CO.

2601-75 WEST GRAND AVENUE CHICAGO 12, ILL.

of electrostatically charged Airmat paper.

This paper is a laminated cellulose product composed of a number of plies of porous, tissue-like sheets formed of short fibers in "jack-straw" arrangement, and is also used as a filtering media in mechanical filters. When an electrostatic charge is applied to the paper, the plies tend to separate and each individual charge is applied to the paper, the plies tend to separate and each individual fiber becomes a collecting electrode which attracts and holds dust and smoke particles. This action practically doubles the cleaning efficiency of Airmat paper.

Since the Electro-PL will continue to function as an efficient air filter when deenergized, its operation may be varied to suit the dust condition—as an electronic air cleaner during the winter months when a smoky atmosphere is prevalent and as a dry-type air filter during the summer months. For further details, write for Bulletin 257.

Tells How Long Paint Takes to Dry

A small instrument for measuring the actual drying characteristics of paints, varnishes, enamels, drying oils, lacquers, shellacs, adhesives, and other types of coatings is announced by Henry A. Gardner Laboratory, Inc., 4723 Elm St., Bethesda, Md.

The Circular Recorder is simply placed on a wet film which has been applied to practically any type of fairly plane surface. It is started by plugging the cord into a 110-volt, 50 or 60-cycle, AC outlet. The electric timing motor rotates at a speed of one revolution in 24 hours (other speeds are available) during which time a weighted spherical pin, connected to the motor shaft by means of an arm, impinges the film and scribes an arc-shaped pattern until the film has dried.

A metal templet, having hour marks from 0 to 24 hours engraved on the periphery, is then placed on the dried film, with O mark on the templet coinciding with the starting point of the test, and the periphery of the templet coinciding with the arc-shaped line made by the spherical pin. The number of hours drying time is then noted on the templet at that point where the pin no longer leaves an impression in the film. Several stages of drying may be noted.

Finish Coating for Plastics

A new protective coating specially designed to cover plastic mold marks and to impart a high luster and gloss to polystyrene and other plastic procucts is announced by Schwartz Chemical Co., Inc., 328 W. 70 St., New York 23, N. Y. Available in a variety of colors, it is said to be ideal for painting or decorating plastic dolls, toys and novelties.

Called Rez-N-Lac, the liquid dries quickly and forms a permanent skin of finger-nail hardness on the surface of polystyrene as well as acrylics, acetates and nitrates. The manufacturer declares that the product does not affect even the most sensitive of plastics and will not cause polystyrene to craze or soften. The new coating can be easily applied by brush, spray or dip and it dries within 15 to 30 minutes to sanding hardness.

Thus the protective coating has high adhesion to most surfaces and will not blister, chip or peel. It contains no nitrocellulose, has good shelf life and is resistant to water, acids, alkalis, gasoline and oil, according to the manufacturer.

Mac's FASHION
NON WIPING & UNIFORMING OIL STAINS

Applied by spraying, brushing or dipping—require no wiping—allow five hours to dry.

Made in all shades of Mahogany, Walnut, Oak and Maple, and for use on all kinds of wood.

Can be reduced with MAC'S STAIN SOLVENT or MAC'S TURPS-NO if lighter shades are desired.

Write for samples and descriptive folder.

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

7430 STATE ROAD PHILADELPHIA 36, PA.

I. C. D. FORMULA NINE
NON-INFLAMMABLE
« *wax free* REMOVER »

for paint, varnish, lacquer, baked enamel, adhesives

EASY TO APPLY—NO AFTER CLEANING

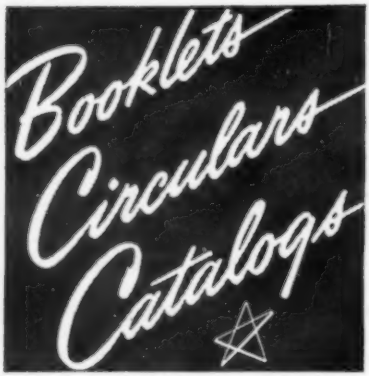
I. C. D. FORMULA 9 is the standard of safety and quality . . can be sprayed or brushed . . doesn't raise grain nor discolor . . quickly removes all kinds of finishes and coatings from any surface or material . . costs less to use . . saves time, labor and material.

BRUSH CLEANER I. C. D. — Non-inflammable brush cleaner works fast . . does not injure nor loosen the bristles. Easy to use . . leaves the bristles clean as a whistle. Order a gallon can and convince yourself.

ORDER TRIAL GALLON AT DRUM PRICE

INDUSTRIAL CHEMICAL DEVELOPMENT CORP.

347 MADISON AVE. NEW YORK 17, N. Y.



Radiant Lamp Bulletin

A new bulletin covering five different lines of lamps for heavy duty industrial service has just been issued by Radiant Lamp Corp., 300 Jelliff Ave., Newark 8, N. J. Included are Hi-Heat R40 infra-red lamps for industrial drying service.

Wax Finishes Bulletin

A new brochure illustrating and describing special wax finishes for furniture manufacturers has just been issued by S. C. Johnson & Son, Inc., Racine, Wisc.

Heavy duty finish waxes, steelwool rubbing waxes, drawer lubricants, cleaning and polishing waxes are discussed from the standpoint of proper use and methods of application.

Brooklyn Varnish Offers Monthly Bulletin

The Industrial Research Division of Brooklyn Varnish Mfg. Co., Inc., 50 Jay St., Brooklyn 1, N. Y., has a new service type of house organ, The Coating Corner, which is being mailed every month now to friends and customers, and to anyone interested in better finishing.

Telling Employees about Business Operations; Profits

Ranking near the top among current executive problems is the necessity of dealing with the varied opinions and ideas about profits which are prevalent among employees and the public alike.

Opinion polls and other investigations have uncovered these ideas repeatedly, and their persistence is revealed forcefully by current tendencies of employees to tie their wage demands to profit figures.

In order to help executives of Metropolitan Group-insured companies find better and more effective methods of meeting this situation, the Policyholders Service Bureau has made a study of the means used to tell employees about profits. Findings of the study have just been published in the report, "Telling Employees About Business Operations; Profits."

If you want a copy of this report, write Policyholders Service Bureau, Metropolitan Life Insurance Co., One Madison Ave., New York 10, N. Y.

Carnauba Wax Substitutes

Many types of the scarcer and more expensive waxes used in fine automobile, wood, leather and linoleum polishes, can be extended or replaced by synthetic chemicals, according to a recent announcement by Monsanto Chemical Co., St. Louis, Mo. A bulletin containing considerable detailed information on this subject has been published by Monsanto.

Corrosion Prevention Paints

A new 4-page folder showing how to cut costs in areas where corrosion is a problem is now ready for release by Prufcoat Laboratories, Inc., 63 Main St., Cambridge 42, Mass. Included in this bulletin are many case histories from leading plants in different types of industries now using Prufcoat coatings which provide effective protection against corrosion from acids, alkalies, oil, and water.

Oakite Issues New Odor Control Booklet

Benefits to be gained with the use of specialized cleaning, disinfecting and deodorizing materials, in connection with industrial housekeeping and plant sanitation programs, are described in an illustrated, 12-page booket just released by Oakite Products, Inc., 132F Thames St., New York 6, N. Y.

Booklet reports on two, specific materials that are said to perform the cleaning, disinfecting and deodorizing functions easily, efficiently and economically. Each of these materials possesses the ability to perform diverse activities within a single application. The first, double-action Oakite Di-Sanite, combines thorough, all-purpose cleaning action with effective deodorizing ability. The second, Oakite Tri-Sanite, a threefold sanitizing agent, contains germicidal and fungistatic properties in addition to its odor-killing and light detergent characteristics, it is reported.

DRUM TUMBLING MACHINE

for Efficient Mixing of Materials in Suppliers' Drums

- No solvent loss
- No time loss
- Material ready when needed
- No fire hazard
- Nothing to clean

- Supplied in sizes from 5 to 10 gallons; any load, any speed.

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Quick-Dry Fillers

By Raymond C. Adams
Technical Director
Gilman Paint & Varnish Co.

QUICK-DRY FILLERS are not new, although there is a great deal of attention being focused on them at present. Paint chemists have long recognized the need to speed up the drying time required of the conventional type filler to make it fit into modern speeded-up finishing schedules.

In addition to the over-night drying period required for a conventional type filler, if atmospheric conditions aren't kept reasonably constant it might not dry for several days. Since only a few furniture manufacturers have equipment with which to control atmospheric conditions within their finishing room the net result, with them, is that several times over a period of a year, filler trouble is encountered.

For the purpose of this discussion paste wood fillers can be divided into two types, namely, conventional-type fillers and quick-dry fillers.

Conventional-Type Wood Fillers

In general, I believe it is safe to state that all of the conventional-type fillers on the market, as made by different manufacturers, are very similar in composition. Generally they have a linseed oil vehicle as the base. As is well known, even with the addition of drier, over-night drying is required for such fillers. The two main problems that arise from insufficient drying of conventional-type fillers are:

1) A lifting or raising of the filler by the lacquer sealer, thus giving an orange peel effect.

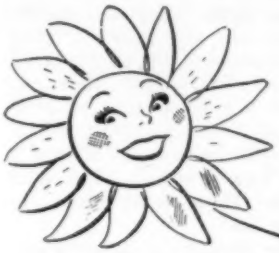
2) The filler turning gray upon aging.

What's Different About Quick-Dry Fillers

Quite contrary to conventional-type filler formulas, the quick-dry fillers on the market all differ in composition. This is what could be expected, since each manufacturer prefers to keep his formulas secret. There has been very little exchanging of ideas on this subject among technical men.

Essentially the linseed oil in conventional-type fillers has been replaced with one or more of the various synthetic resins which are used by the paint industry today. In general, the objective has been to use vehicles that dry much harder than linseed oil and in 5% to 10% of the time.

Even with such fast-drying vehicles, attempts are made to use just as little vehicle as possible, so as to further the opportunity of the filler to dry quickly. *(To page 126)*



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As the name suggests, quick-dry fillers do dry quickly, thus the two problems often encountered with conventional-type fillers, as mentioned previously, are of little concern with quick-drying fillers. Quick-dry fillers are not always a cure-all. New problems arise with their use. Those most often encountered are:

1) Poor wiping characteristics.
2) Pores turning gray (this is due to a cause different from that experienced with conventional-type filler).
3) Imperfect filling.

Regarding "Poor Wiping" Characteristics

Some finishers complain that certain makes of quick-dry fillers have relatively poor wiping characteristics. With the conventional-type filler, wiping isn't a problem because the linseed oil tends to act as a lubricant which makes the filler wipe easily. Most of the synthetic vehicles, which are used as the base of quick-dry fillers, do not exhibit this lubricating tendency.

Often the finisher may confuse the poor wiping characteristics of a quick-dry filler with the actual drying of the filler. He thinks that it has already started to dry and, for that reason, it is hard to wipe. This is not the case. Synthetic vehicles, by their very nature, are sticky and they show poor lubricating tendencies (as compared to oil fillers) hence their poor wiping characteristics.

In the last few years the wiping problem of quick-dry fillers has been largely overcome. Often a small quantity of another ingredi-

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ent, which adds lubricating qualities, is used. In other instances the filler is cut with a somewhat slower thinner to improve the wiping. This improvement in wiping is not due to any one thing, but has been worked out in various ways by chemists in the laboratory of each manufacturer.

What Makes Filled Pores Turn Gray

One finishing complaint that everyone dreads is graying of the pores. With conventional-type filler this is generally caused by insufficient drying, and it is much more serious than with quick-dry fillers. Often, with conventional-type filler the filler does not turn gray for a considerable length of time. With quick-dry filler it is noticeable in just a few minutes. There are two reasons why quick-dry fillers turn gray:

1) Blushing of the lacquer sealer, which gives the effect of the filler turning gray.

2) Poor wetting of coloring pigments, thus making the filler lighter in color than the surrounding wood, which makes the filler, in turn, appear gray.

Blushing of Lacquer Sealer Coat

As mentioned previously, slow-drying thinners are often used with quick-dry fillers to aid in wiping. These thinners are not compatable with lacquer, and if an appreciable quantity of the thinner is still in the wood, when the coat of lacquer sealer is applied, it will blush. If this blushing is severe, it can be easily recognized as such, but if

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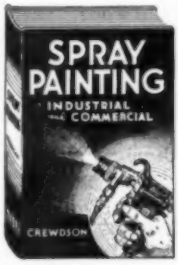

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the filler thinner is almost out when lacquer sealer is applied, the blushing is apt to show only in certain spots that were not thoroughly dry. Even then the blushing will be so slight as to make it appear that the filler has turned gray. Such surfaces can be restored by simply spraying lacquer thinner over them.

The second cause of a quick-drying filler turning gray is experienced when the vehicle of the filler is of such a nature (or when there is so little of it used) that the color of the pigment is not brought out. A situation such as this might be compared with dropping water on an unfinished piece of wood, for example walnut. While water is on the surface the color of the wood is brought out, but just as soon as the water evaporates the color brightness disappears. When a finishing material that stays on the surface is applied, the color is again restored.

This situation is the same with certain types of quick-dry fillers. They appear to have a good color when they are wet but when the thinner evaporates there isn't enough vehicle, or it isn't of the proper type, to bring out the color of the wood. The filler, being lighter in color than the surrounding wood, appears to be gray.

This condition can be checked by adding a small quantity of color ground in linseed oil, and also by adding a little linseed oil to the filler, so as to make certain that the filler contains enough coloring pigment and vehicle. Even though a small amount of linseed oil has been added, for the purpose of a test, the lacquer sealer can be applied in the regular time. Graying, due to poor wetting of the pigment, shows up in a short time, long be-

fore there could be any reaction with the additional linseed oil that was added.

When quick-dry fillers were first developed, the filling was not as good as with the conventional-type fillers. However, formulators have been able to overcome this difficulty. Most of the modern quick-dry fillers do a satisfactory job of filling.

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A long slender bar (heating element) mounted in a reflector (no glass) which reminds you of one for fluorescent lighting tubes—this is what you see when you look at one of the Chromalax electric radiant heaters for glassless infra-red drying, baking and heating. Several of these all-metal units can be nested together to form a tunnel through which painted parts or products can be conveyed to bake the coatings.

Illustrated bulletins that describe these infra-red heaters can be obtained free by writing the manufacturer, Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Penna.

Guide to Accident Prevention

A new catalog just released by the Chicago Eye Shied Co., 2300 Warren Blvd., Chicago 12, Illinois, not only lists the company's products but also tells where to use, how to use, how to maintain and how to select industrial protective equipment. By going well beyond the scope of an ordinary catalog it becomes a guide to accident prevention.

Among the 64 pages in the book are 16 pages explaining correct safety procedures. Facts presented on these technical pages are based on official reports and recommendations, and much of the imformation applies to all protective equipment, regardless of make.

Standard Varnish Appoints Eldot

The Standard Varnish Works (Trade Sales Division) and its subsidiary, Toch Brothers, Inc. ("R.I.W.") of New York and Chicago, announce the appointment of Leon D. Eldot as Coordinator of Marketing and Sales Development for both companies. He will be associated in these activities, with Mr. W. M. Saidel of the Eastern Division and Mr. L. H. Jenkins, Manager of the Western Division.

An integrated marketing and sales program is being projected which will expand the operations of these two companies and provide increased services in the fields in which their products are used and distributed.

Mr. Eldot is a Past President of New York Paint, Varnish & Lacuer Association, and is now on the President's Advisory Committee; he has been very active in the industry, having served on many committees. He is a member of the Advertising Club of New York City, Sales Executives Club; National Federation of Sales Executives, American Marketing Association and American Arbitration Association.

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Industrial FINISHING Editorial

Complete Finishing Set-ups Prescribed

The finishing of manufactured products today means something more than just buying materials and shooting them onto surfaces. People who buy completed products on the market are demanding finished surfaces that will stay attractive and resist most of the things that quickly ruin a cheap finish. Concerns that make products on which finishes are used, are obliged to meet these demands; and also, because of high costs and competition, they must get their finishing operations going and keep them going on a basis of efficiency, economy and dependability. Experimenting on the production line is so costly that it is just about prohibitive these days.

To help all companies that use finishing materials on their products, one large manufacturer of finishes recently announced that it had developed and placed in operation a technical service which goes much farther than what is ordinarily offered to a user of paints, varnishes, lacquers or synthetics. As a preliminary move the firm's technical representative calls and makes a searching investigation of the customer's raw materials, manufacturing facilities and final requirements or objectives in relation to the goods it plans to market.

Characteristics of the materials to be coated, the surface treatment actually used or which may be used before any coatings are applied, the equipment available, the conditions under which each coating is put on and dried, any added decorative treatment, and the handling and storage practices—all of these factors are delved into because each one does or can have some effect on the final finish.

Not until after this complete and thorough investigation is made and the facts are referred to the finish manufacturer's service department, does the "doctor of finishes" offer any recommendations. He may start out by first recommending some cleaning up, repair or replacement of equipment or the changing of methods or personnel before prescribing the materials and finishing technnique which his firm is prepared to guarantee, as to results.

This kind of service has long been needed in many factories where products are painted or finished. If it is welcomed and properly used by more concerns, there will be less wastage of material, time and labor, and fewer headaches for management.

Furniture Buying at A. F. M. in Chicago

At the American Furniture Mart's Summer Market in Chicago, the market tone remained on the cautious side throughout the 2-week period. Merchants held purchases to their immediate needs, but they did not neglect to order new and highly styled merchandise to brighten their selling floors. A smorgasbord market, according to one observer. Buyers ordered a little of everything and are prepared to come back for more of those items that show the best turnover.

The market was undersold rather than oversold and buyers will be back in early fall to replace those items that have sold readily. The hustle and bustle of previous buying periods was absent. There was no need for the buyer to hurry. There was a plentiful supply of merchandise in all categories and the 19,000-plus buyers shopped carefully and ordered what they considered the best "buys".

Well designed and colorful patterns that showed obvious value, sold rapidly. Some manufacturers booked orders that will keep their factories busy until near the end of the year. Other concerns, discovered that their lines needed revamping to meet the latest customer tastes. New and, they hope, better styled lines will be offered at the January market.

Buyers were impressed by the improved quality in many lines. Functional modern occupied No. 1 spot in the buyer's books, closely followed by 18th Century. Metal furniture was in excellent demand.

Buying began slowly. Buyers discovered that the spaces were loaded with interesting possibilities. It took time to inspect and appraise the 1600 carloads of furniture on display. Actual buying did not get underway until Friday of the first week, and then continued at a steady pace into the second week which was the biggest, both in the standpoint of attendance and actual sales, in the history of the American Furniture Mart.

The January 1949 Furniture Show will be held January 10 to 21 inclusive.

Heavy Duty Preservative Paints

A large colorful folder that supplies specific information about Valdura heavy-duty paints, has been published by the manufacturer of these remarkable coatings, American-Marietta Co., 43 E. Ohio St., Chicago 11, Ill. Paints developed especially for every building and maintenance purpose are listed and briefly described. The characteristics of each paint are listed in a convenient chart.

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Finding Out about Better Finishes

★ Progressive users of paint—and I am thinking primarily of those who do production line coating of industrial articles—recognize the necessity of keeping up with newer types of paint products in order to improve the protective or decorative quality of their finish. It is quite apparent that to do this satisfactorily entails both laboratory and production line testing.

The first phase, that is, preliminary laboratory testing, is of great importance, as it will weed out inferior materials and thus help to cut down the amount of production line tests that must be made. The cooperation of the paint manufacturer's laboratory with that of the user greatly improves the efficiency of this preliminary testing.

Production line testing is really the acid test and involves several factors which are not present in laboratory work.

First of all, almost every line has its own peculiarities which are best known to the men who operate it regularly. This is true to such an extent that every industrial paint salesman realizes the desirability of being on good terms with the man who runs the line. For the good of the company, management must see that its line operators are open minded and intensely interested in trying to make their product better than ever.

Before making a production line test, the company chemist or the paint technician should sit down with the operator and explain the character-

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials, paying for those published.*

istics and properties of the new coating they are going to test. Such a little talk may mark the difference between success and failure.

Another factor which should be considered is the interruption of production. If at all possible, tests should be scheduled for production shutdown days. If done in the midst of a regular working day the pressure of halted production may become almost unbearable and can reflect on the outcome of the test.

Also, production tests are usually expensive. They are expensive from a standpoint of labor involved, as well as the materials such as the paint itself which can vary from a quart or gallon to many drums, and the articles to be painted which may be large steel sheets or smaller objects. A planned program for every production test will result in lower cost and more efficiency.

Management, line operators and paint technicians, working together as a team, will form a combination for newer and better industrial finishes with resulting benefits to the product, manufacturer and the ultimate user.—L. M. MARTIN.

Employe morale will be very much improved if labor relation is generously sprinkled with genuine human interest.

Ditzler Promotes E. G. Knox

William T. Utley, divisional director of the Ditzler Color Division of Pittsburgh Plate Glass Co., Detroit, Mich., announces the appointment of E. G. Knox as one of two assistant sales managers under William H. Hogben, industrial sales manager.

Mr. Knox has been with the Ditzler Division for over 14 years, four years of which were spent in the synthetic enamel research laboratory, three years in distributor sales, three years in plastic sales and four years in industrial sales.

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